COMMUNICATIONS WORLD

INCORPORATING COMPUTERWORLD ON COMMUNICATIONS

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Competing voice net links NB dealers

SYDNEY — An Australian company is poised to open a private voice service in New Zealand, using a leased 2M-bit/sec link between Auckland and Wellington and offering circuits at half the price charged by Telecom NZ.

The company, dealing room consultants Sanda Services of Sydney, has received verbal approval for the competitive service from Telecom NZ and was waiting for written confirmation as *Communications World* went to press.

Managing director Sam Alexander, who was preparing to leave for Auckland to open a Sanda office there (the company already has an office in Wellington), said he preferred not to give details of the planned service pending full approval.

But sources in New Zealand said voice traffic for money market dealers in Auckland and Wellington would be multiplexed on to the 2M-bit/sec link under a closed-user group (CUG) arrangement.

The company would be restricted to offering a point-to-point CUG service only. Participation in the CUG was limited to licensed money market dealers. Observers said such an arrangement still represented a "foot in the door" for the company pending the NZ government's pledged deregulaton of Telecom NZ by the end of this year or early next year.

Commenting on developments in Australia, the sources said Telecom's regulations had "put the market back three years". Sydney, for instance, could have been much more of a financial centre but for Telecom's restrictions, they said.

Alternate carrier?

Meanwhile, US alternate carrier GTE-Telenet is tipped to lease capacity from Telecom NZ for a competitive data network that will eventually include its own optical fibre links between all New Zealand cities.

Sources said a handful of senior

(Continued page 2)

Tie lines going cheap as bundled services

Aussat targets data 'hole'

By Luis Huesch

SYDNEY — Anticipating speedy government deregulation of the telecommunications market, Aussat is edging in with innovative inter-capital voice and data offerings claimed to be highly attractive compared with current Telecom services.

According to industry sources briefed recently on the advantages of what Aussat terms end-to-end bundled services, the space carrier if offering savings of $A25,000 a year using a "leaner mix" of Telecom tielines and satellite circuits on a Melbourne-Sydney-Brisbane voice link.

"At around $A12,000 for the equivalent of a four-wire tieline from anywhere to anywhere on the east coast, they are getting a lot of tieline business," said one source.

The space carrier is also out hunting more actively for data applications to supplement revenue (four out of every five dollars Aussat earns at present come from its TV and radio customers). The data services, while generally not dramatically cheaper than those offered by Telecom, are claimed to "fill a hole in Telecom's range" between 4.8K-bit/sec and 2M-bit/sec.

Emulating Telecom's Megalinks in space, Aussat has taken to broadcast 2M-bit/sec streams to all of its eight major city earth stations (Aussat prefers to call them "teleports"), which customers can take in lots of nx64K-bit/sec services and multiplex or de-multiplex to their requirements.

Hundreds of companies are expected to take up these "very attractive" services, which are linked from teleport to a central business district node by a 34M-bit/sec microwave feed.

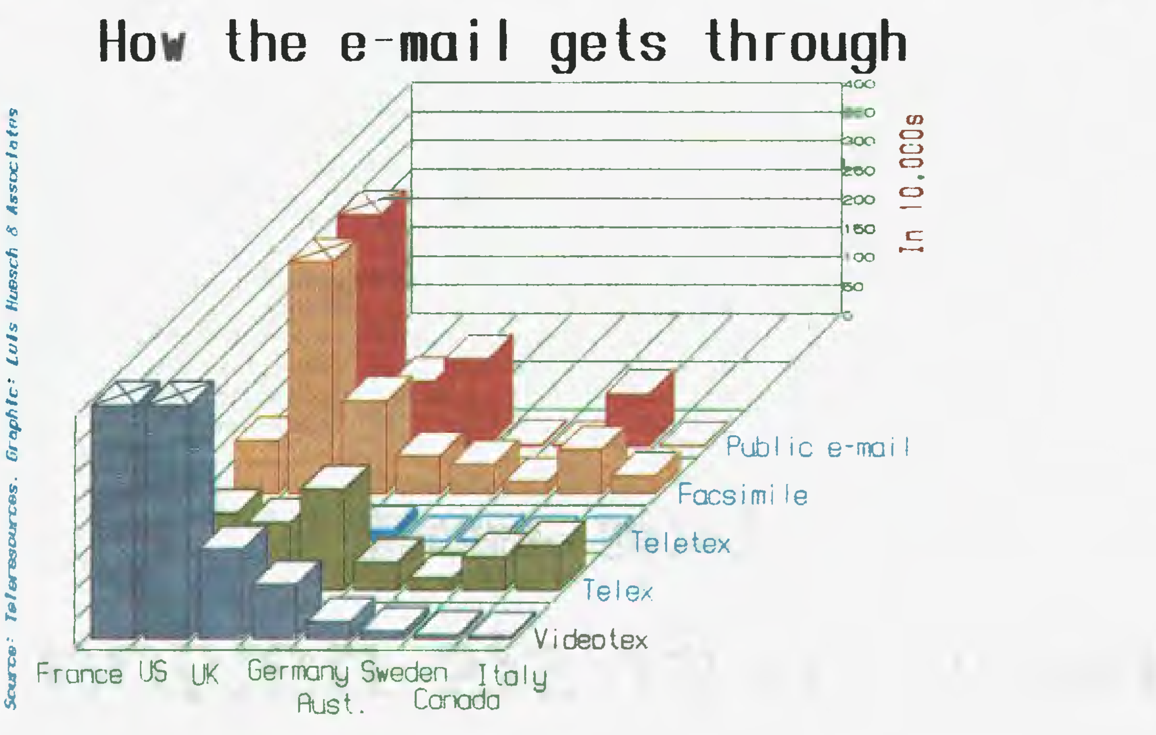
Flat pricing applies to clients within 3km of the node, assuming Telecom tails, or within 5km of the teleport. Tails can be supplanted by microwave or optical fibre, with cost breakeven claimed to occur at four/five circuits.

More interesting are the possibilities of Aussat-borne voice circuits, which one source described, only part in jest, as making possible "untimed interstate calls".

A capital-to-capital voice circuit between PABXs via satellite, with one end connected to the public switched telephone network

(Continued page 2)

How the e-mail gets through



Source: Teleresources. Graphic: Luis Huesch & Associates

Bureau sees big benefits

CANBERRA — The Bureau of Industry Economics (B/E), an independent research unit of the Federal Department of Industry, Technology and Commerce, has joined the deregulation debate with a paper arguing that shared use and resale of Telecom leased lines would benefit Australia's telecommunications industry.

A BIE information bulletin called *Regulation of Private Communications Networks in Australia* also urges liberalisation of Telecom's interconnect policy so that private networks may start competing with the monopoly carrier. This again would lead to cost reductions.

(Continued page 2)

BT steps up trade pressure

By Luis Huesch

SYDNEY — British Telecom (BT). ramping up to expand its presence in Australia, is pushing into the small business switch market with the SX-50 PABX from its majority-owned Canadian partner, Mitel Communications.

Trading in Australia as Teletrade Services Pty Ltd while sorting out trademark troubles, BT obtained a full Telecom listing for the 160-port digital switch last month. Even before the listing came through, BT installed some 40 units in Australia under a Restricted Authority to Supply (RAS).

Users include AAP-Reuters, the New Zealand and Canadian pavilions at Expo 88 in Brisbane, the Darling Harbor Authority in Sydney and the Small Business Advisory Service in Melbourne, among others.

The compact, low heat-dissipation wall-mounted switch is a non-blocking, stored program-controlled, all-digital PABX which supports up to 80 extensions.

It is said to be particularly suitable for networking applications and can be "slaved" to larger (or even smaller) switches including those from other vendors, with transparent signalling cited as an unusual feature.

BT is positioning the Mitel SX-50 as a feature-rich small business PABX with equally feature-laden, high-end handsets, but points out that in its basic configuration it will beat a top-end key system such as the one sold as Commander F by Telecom on price, let alone performance.

The system hardware is modular for incremental expansion, and all of its software-driven features are included in a single package — which makes sense not only for the price conscious but also from the point of view of easy software upgrades. *(For full details of the SX-50, please turn to the New Products/Hardware pages).*

The version of the SX-50 sold here is made in New Zealand, where it is sold by Telecom NZ. The switch is claimed to be ISDN-ready, being able to handle 48 channels of 64k-bit/sec each. This one-and-a-half times 2M-bit/sec capacity, provided by custom Mitel chips, is being proposed as a possible CCITT standard extension. According to company engineers,

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Showcase catalogue begins on — page 20

Competing voice net

(Continued from page 1)

Dealing room traders will be the first to benefit from Sanda's coup

GTE-Telenet representatives had held talks in Wellington recently but this could not be confirmed immediately.

Computerworld New Zealand recently quoted Hanns Schweis, former group telecommunications manager with value-added network operator Eagle Technology, as saying he had joined a US company he declined to identify, and was going to the US to plan for its operations in New Zealand.

Schweis said minicomputer nodes would be established in all cities and linked by 48K-bit/sec circuits initially leased from Telecom NZ. A high degree of redundancy was planned, so that node failure would be transparent to users.

Schweis expected Telecom NZ to be forced to review its pricing structure with the advent of big overseas communications companies. Tymnet has been mentioned as one potential contender, and British Telecom has said it will spend hundreds of millions of pounds in the next few years on overseas ventures,

According to Schweis, Van operators at present have to pay — and pass on — retail prices for capacity rather than get discounts on bulk capacity or unused bandwidth.

Bureau sees big benefits

(Continued from page 1)

The study cites the experiences of Japan, the UK and the US to back up its recommendations. In the US, alternative carriers had driven prices down by as much as 40 per cent below those charged by AT&T; in the UK, Mercury offered digital leased lines between 20 and 30 per cent cheaper than British Telecom; and in Japan, the new Type 1 alternative carriers were expected to be 20-25 per cent cheaper than NTT. In all countries where deregulation had take place, a host of new value-added services had sprung up to stimulate or even revolutionise business. Competition also improved the levels of service and maintenance provided by the former monopoly carriers.

The authors of the 72-page study, John Whiteman and his assistants John Hutchison and Tony Kuly, suggest that Telecom should make up for revenue shortfalls — which might reduce its ability to cross-subsidise non-profitable services — through interconnect fees.

An independent regulatory authority would need to set these interconnection charges at a level that does not unduly deter private competition.

While arguing in favor of deregulation and competition in the build-up to the government setting policy in these areas — expected in connection with the May mini-budget — the authors forecast that the Integrated Services Digital Network (ISDN) and the widespread use of fibre optics will eventually crowd out most private networks.

Pressure grows

(Continued from page 1)

such a 32B+3D configuration would yield two extra 16k-bit/sec channels for control purposes.

Teletrade Services business manager, Adrian Coote, said the switch price ranged between $A17,000 and $A40,000, depending on configuration. This included the operator's console and 10 per cent "penetration" of the Mitel Superset 4 handset. Coote said a slightly higher than usual maintenance contract price reflected the 100 per cent spare stock supplied to Telecom for maintenance. "They could build complete SX-50s with the spares they hold", he said. Maintenance is a snap-in job for all modules, including the system backplane. Spares are also sold directly to the customer.

Mitel claims a world market leadership in small PABXs (under 100 lines) and cites Datapro ratings that put it first among the top 10 switch makers for two consecutive years on overall user satisfaction and reliability.

Aussat targeting data 'hole'

(Continued from page 1)

(PSTN), would break even if the customer normally paid for 90 minutes of STD calls between the two cities five days a week.

Aussat does not itself offer "bypass" of the Telecom network, given that it supplies only one interconnect to the PSTN. Dial-out at the remote and is possible.

However, it is obvious that the space carrier is chafing at the bit for the barrier to drop, expecting the Hutchinson task force to do away with the interconnect restrictions.

Aussat is offering two types of voice circuit, tielines and EES (extended exchange services). Space-borne tielines are claimed not only to be cost effective — five terrestrial circuits between Melbourne and a drop in Sydney, with three circuits continued up to Brisbane, can be replaced by a combination of two satellite circuits plus three Melbourne-Sydney and one Sydney-Brisbane Telecom circuit. Savings in this example are claimed to be as much as $A25,000 a year.

They are also said to offer greater configuration flexibility, peace-of-mind backup, transit switching in two cities rather than one and extra connectivity. Thus the PSTN-connected line can be put on a rotary group and configured as an in-dial group. The carrier reportedly has signed up two direct-marketing companies and a paging company that can offer enhanced services by using its voice services.

Candid Comment

Conspiracy theorists having a ball

By Noel Bennett

CONSPIRACY theorists have come out of the woodwork — from the Caltex-Transport Workers' Union-NSW government dispute to Telecom and timed local calls (TLC). The theory went that Telecom, in order to spike the Federal government's acceptance of any proposal by Senator Evans' Task Force to restructure telecommunications, launched its TLC discussion paper just before the Adelaide by-election.

The theory continues that Telecom knew TLC would be highly unpopular within the community and would produce a backlash against the Labor Party. Having lost the election, the theorists say, the Federal government will now heed the message — "hands off Telecom or else".

Apart from the absence of any supporting facts, this theory conveniently overlooks Telecom itself wanting change, even if not across the total spectrum as some of the more extreme "liberationist" privateeers would like. But as the Federation-old Telecom itself knows, change can only be delayed, but not prevented in the long term as other nations liberalise their internal telecommunications and so provide for greater efficiencies and flexibility which will in turn enhance the competitiveness of their economies. Dream worlds, isolationism can only last for so long before a nation suffers a savage kick from reality.

The Telecom and TLC debate generated two disturbing and dismaying phenomena, which behoves ill for any necessary change in the telecommunications structure, or indeed any attempt by a Federal government to use scarce resources to the full.

First was the way the media picked up and ran with the TLC issue, equating this new way of charging as increasing telephone charges to "battlers". The facts of Telecom's proposals were completely ignored and the media traded on an intense community dissatisfaction with Telecom to whip up even greater enmity towards TLC.

The dogs of hysteria were unleashed.

Telecom itself could be partly blamed for this unedifying and disturbing exhibition by the media as it did not "bang the drum" loud enough about the benefits for "battlers", or anyone else for that matter who used the telephone judiciously. It was caught badly on the back foot at the outset and then could never make a forward strike — the media and others were not so obliging. Its attempt to get the full facts publicised was ignored as the media found that it was on a winner by claiming telephone calls would cost more and providing the opportunity for the community to unleash its intense dislike of Telecom via talkback radio shows and in letters to the editor.

In the end the whole community will pay, including battlers — telephone calls will escalate more than they would have if TLC had been adopted. While it may have been argued that Telecom's proposals could have been altered in certain particulars — and Telecom itself was fully intending to talk about the proposals to various sections of the community — they were correct in principle.

That is, telephone exchanges are scarce resources, capital intensive and handling peak load in certain hours during the business day. In making better economic use of these exchanges and minimising the need to instal new exchanges to just handle those peak hours, rationing by price would have been a sensible answer, counterbalanced by cheaper calls outside those hours. When the next increase arrives in telephone charges, will the media and critics indicate to the battler that this partly resulted from the rejection of TLC?

Also frightening is that this abortive TLC attempt may well dissuade the Federal government from privatising or liberalising the other entities it was examining — Qantas, Australian Airlines and others.

However, TLC displayed more than anything else the bankruptcy of the Federal opposition, more so even than its blatant appeal to the "hip-pocket nerve" during the last Federal election. Sensing electoral blood, the opposition ran with the hounds and, in so doing, forsook its own principles, leaving little to expect if elected to office.

How seriously can the opposition now expect to be taken when it calls for greater efficiency, flexibility and rationality in any government enterprise? How seriously can it be taken when it forsakes its principles in this instance — that users should pay for services, but at the same time heeding the claims of those who justify a safety net in social service terms?

The opposition, for example, claims Telecom's monopoly on the installation and maintenance of telephones costs Australian consumers $250 million a year. So what? How much will the non-introduction of TLC cost the consumer in the future?

How will the opposition react to the introduction of ISDN, particularly when it enters the home, seeing that it is based on time charging? Will it oppose the introduction of this new technology? If it ever succeeds in gaining the Treasury benches, it could justifiably be laughed at if it attempted to tinker with Telecom or any other government instrumentality.

Unfortunately, as the whole matter of rationalising the operations of government instrumentalites has been set back by the emotional attack on TLC, compounded by the indiscriminate use of the terms liberalisation and privatisation, so Australia will be the loser.

That is, until it goes through a very painful experience of knowing that it is being passed even by the so called "under-developed" nations in its region. One "developed" nation, New Zealand, being swamped by international and national debt, intends selling the "family silver" — nine corporations and agencies including the Telecom Authority. If the sales cannot be made, these enterprises will be asset-stripped.

IBM beefs up processors

SYDNEY — IBM strengthened the ability of its communications processors to support its unfolding distributed networking scheme when it announced the 3745, a long-expected addition to its communications processor family, reported to pack four times the punch of the existing 3725.

Director of marketing operations for IBM Australia, Terry Baker, said the releases built on several technological advances, including logic chips that were among the densest in the industry today.

IBM also brought out enhanced versions of the Advanced Communications Facility/Network Control Program (ACF/NCP) software that it said adds greater flexibility and peer-to-peer networking to its communications processors. One eagerly awaited feature is dynamic network reconfiguration that lets users add or delete communications processors, hosts or lines without having to take down the IBM Systems Network Architecture (SNA) network.

The 3745 eliminates several long-standing limitations of the earlier 3725 high-end model and provides far more cost-effective communications processing.

Among the reported advantages are the following:

- ■ Support of up to 16 host channel connections, compared with six.
- ■ Support of up to eight active T-1 links, instead of just one. This can eliminate for some companies the need to instal an additional box, such as IBM's 3737 or Network System's Hyperchannel, to handle high-speed communications between hosts.
- ■ Backup capabilities are provided by the second processing unit, which can be automatically activated by a network alert sent to the Netview network management system.

The 3745's superior processing power also makes it a far more viable gateway between hosts and IBM Token-Ring networks, IBM and industry sources agreed. Users and analysts have complained that the 3725 bogs down as a conduit between a host and a rapidly growing local-area network.

In contrast, the 3745 "can certainly achieve a 1M-bit/sec throughput" either as a gateway between a Lan and a host or between multiple Lans, one banking industry representative said. This means that IBM envisions the device as a high-speed Lan-to-Lan bridge.

IBM's new ACF/NCP releases will allow IBM communications processors to deliver several low-entry networking features that the vendor announced last June, according to Ellen Hancock, vice-president of IBM's Communication Systems Division. The new Version 5 supports the 3745 and existing 3720 processors; the enhanced Version 4, Release 3 supports the 3725.

Enhancements include the following:

- ■ Support of IBM's SNA 2.1, so devices running the peer-to-peer networking protocol can communicate across an SNA backbone of processors without having to go through the host for each interaction.
- ■ Dynamic network configuration and updates of SNA tables without the need to interrupt network operations.
- ■ Multidrop networking, which allows multiple 3745s to share the same dedicated or switched line.

The one-processor 3745 Model 210 is to be available in March, with prices beginning at $A247,000. The dual-processor Model 410 costs $A355,000 for an entry-level version. These prices do not include importation charges.

Increased availability for the 3745 will be crucial if its becomes a backbone system supporting peer-to-peer connections between IBM and non-IBM devices, rather than just a front end attached to a single host, according to consultants.

One way that IBM has fitted the 3745 for that role is by adding support for the device to its SNA X.25 Interconnection, a program that allows an SNA backbone of communications controllers to support X.25 packet-switching communications between both IBM and non-IBM devices, one industry watcher said.

Of particular interest to big users was IBM's introduction of the Network Asset Management program, which allows IBM cluster controllers to send to a host database information about serial number, machine type and port number of all attached devices. It is reported that the program will be available without charge as an enhancement to IBM 3174 Subsystem Control Unit Configuration in the second half of this year.

● *Elisabeth Horwitt contributed analysis to this story via the IDG News Network.*

Upgrades in its packet-switching

FRAMINGHAM, Mass — Continuing its quest for dominance in the telecommunications arena, IBM has announced major upgrades and additions to its packet-switching product lines.

The latest versions of the X.25 NCP packet-switched interface (NPSI) are said to offer a 40 per cent performance increase over the older version as well as support for IBM's newly announced 3745 communications processor. NPSI provides an interface between SNA devices and a CCITT X.25 packet-switching network. IBM forecasts that NPSI versions 2 and 3 will be available at the end of the year.

IBM also made SNA X.25 Interconnection (XI) a standard product rather than part of its Request for Proposal program. XI is said to support X.25 communications across an SNA backbone of IBM communications controllers, including the 3745.

Also announced was the X.25 SNA network supervisory function (NSF) which is

(Continued page 4)

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Callers get access to database

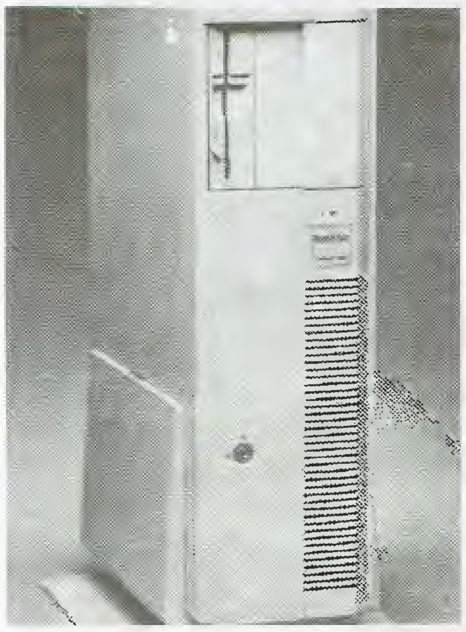
MOUNTAIN VIEW, California — Text-to-speech expert Speech Plus Inc has launched a voice response system that gives callers access to information residing in a company database.

The Calltext Voice Gateway System (VGS) is positioned as a cost-effective way to implement applications such as order entry and status inquiry, verification of the status of insurance claims, service despatching and voice output of electronic mail.

It is based on the company's proprietary text-to-speech output technology, and is claimed to be able to convert computer-resident database information for access from any touch-tone telephone.

VGS, built on an AT-compatible hardware platform, is said to support between four and 32 telephone lines simultaneously, with each line able to access a different application.

Multiple concurrent IBM 3278, 5251 and 3274 sessions as well as asynchronous terminal options are possible, according to the vendor. A four-line entry system, with setup, training and 12-months warranty, costs $US31,600.



IBM X.25 line

(Continued from page 3)

said to allow an IBM MVS host running Netview to collect network alerts and performance information from X.25 devices attached to an SNA network. Release 1 is scheduled for June.

Ellen Hancock, general manager of IBM's communication systems division, reaffirmed IBM's intentions to develop a "graphic-based Personal System/2-based Netview solution".

Among the first products to be supported by the system, IBM said, will by Network Equipment Technologie's (NET) integrated digital network exchange (IDNX) T1 switches, as resold by IBM. The workstations would also allow IDNX network events to be forwarded as SNA alerts to Netview via the Netview/PC interface. IBM is also developing an integrated network management database based on DB2.

IBM's version of the IDNX product line will support 45M-bit/sec (T3) networking as soon as NET provides this capability, the company said. IBM also announced an upgraded version of the 3737 remote channel-to-channel unit. Model 002, which supports host-to-host links over up to two T1 channels, will replace the older 3737, which supported only a single T1 link. In the US, the product will be available in June.

Report tips Rolm revival

'Top PABX supplier by 1992'

By Alan Alper

PARSIPPANY, New Jersey — IBM subsidiary Rolm, now languishing in third place in the US PABX market, will become the top supplier by 1992 by virtue of IBM's prowess in data processing, data communications and network management, according to a report by Probe Research.

If successful, IBM would also reverse years of heavy losses at its Rolm Systems division and transform the unit into a profitable entity within two years, the report said. IBM has invested in computer-aided design and manufacturing, sharing its low-cost manufacturing processes with Rolm.

Spearheading IBM's effort will be the 8750/9750 PABX line, which is the first Rolm switch to be introduced and sold directly by IBM.

"Since more of the purchasing decisions are being made by the MIS executive the telecom manager now reports to, IBM will be dealing with customers it knows quite well," according to the authors of the report.

Among the PABX's strengths, Probe said, are breadth of voice and data applications, Integrated Services Data Network (ISDN) support, future support of IBM's Systems Application Architecture and integration of voice capability into Netview, IBM's network management architecture.

Based on an anticipated 7 per cent annual growth rate in overall PABX line shipments and anticipated higher prices of switches with integrated data communications capabilities, Probe estimated that IBM will grow from $US1 billion in PABX revenue this year to $US2.5 billion in 1992.

If IBM vaults over AT&T and Northern Telecom to become the leading worldwide PABX supplier, the market share gains will come primarily at the expense of second-tier suppliers. All told, the Big Three are expected to increase their worldwide PABX market share from 70 per cent to 80 per cent during the next four years, the report noted.

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Fax switch shares line

HONG KONG — Expatriate Australian electronics entrepreneur David Hartley, whose Banksia Information Technology (BIT) does custom design and manufacture in Hong Kong, has produced a clever gadget that automatically switches fax calls to a fax machine on a single shared line.

The invention, dubbed Phaxswitch, also uses digitised voice to answer callers announcing a subsequent fax transmission. The device, initially produced in a Bell-compatible version with full FCC approval, costs $US75.

A CCITT version, which also needs further line isolation in accordance with the requirements of the various PTTs, will come later.

The Phaxswitch is aimed at markets where there are long waiting lists for telephone line installations, or for small businesses with only a single line shared between fax and telephone.

The device automatically switches the line to the fax machine if the incoming call is identified as a facsimile transmission. If the Phaxswitch user then picks up the phone, the unit immediately switches back to the telephone.

If people dial in, Phaxswitch answers the call after two rings and asks whether caller wants to send a fax message. On hearing the word "Fax" the device switches to the facsimile machine. If the call is indeed a normal telephone call, Phaxswitch causes the telephone to continue to ring until answered.

BIT is now looking for agents/distributors who will order in quantity.

Hartley said in a brief electronic mail interview (*Communications World* using Keylink D, Hartley the Hong Kong Dialcom service) that "unfortunately, Australian Telecom approval is some time away. The first version is Bell standard, and we are just going into production with that.

"We then must design the CCITT version and submit variations of that in the UK, Germany, Australia . . .

"As all the regulatory authorities move slowly we do not expect our first CCITT approval till late 1988. (Actually Australian Telecom is one of the best. We are hurrying with the CCITT version!)

"We have distributors in Australia for our other products, but it is too early to appoint a Phaxswitch one yet, unfortunately."

The Phaxswitch

Barrage of products from Sytek

IDG News Service

MOUNTAIN VIEW, California — In an effort to catch up with its rivals, Lan vendor Sytek has launched a barrage of 24 mixed-media multiprotocol products and two product families said to provide Ethernet and backbone internetwork capabilities.

Sytek claims that these product introductions will enable its users to mix numerous technology standards and media on large networks.

Additional to Sytek's personal computer networking family include an 80386-based file server, an Ethernet adapter and personal computer-based transmission control protocol/internet protocol (TCP/IP) software.

Sytek also expanded its Localnet 2000 terminal-to-host line, which now offers twisted-pair support in addition to two routers. The newly introduced Localnet Ethernet family features a variety of baseband and broadband devices supporting IEEE 802.3 and TCP/IP.

In addition, Sytek unveiled several Localnet Internetworking products. These include a broadband IEEE 802.4 token-bus backbone connection, remote network management and three bridges. The bridges provide Ethernet-to-Ethernet, broadband PC-to-Ethernet and Ethernet-to-token bus links.

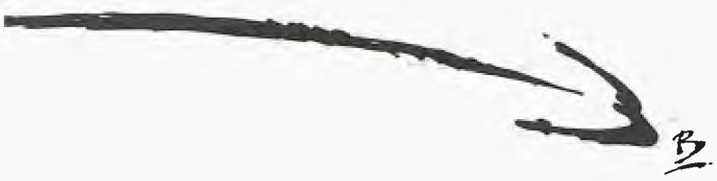
Satellite to be relaunched

IDG News Service

HONG KONG — UK's Cable & Wireless PLC, Hong Kong's Hutchison Whampoa Ltd, and Beijing's China International Trust & Investment Corp will join together to offer domestic satellite telecommunications services to China and other Asian countries.

It is reported that the group will purchase the Westar VI satellite, which was originally launched in 1984 and salvaged by the US space shuttle a year later, from Merrett Ltd.

According to Mike Gale, the Hong Kong director of Cable & Wireless, the satellite will be relaunched by China's Long March III rocket in April 1989. The three partners are expected to hold equal shares in the consortium. The project's initial cost is reported to be around $US150 million.



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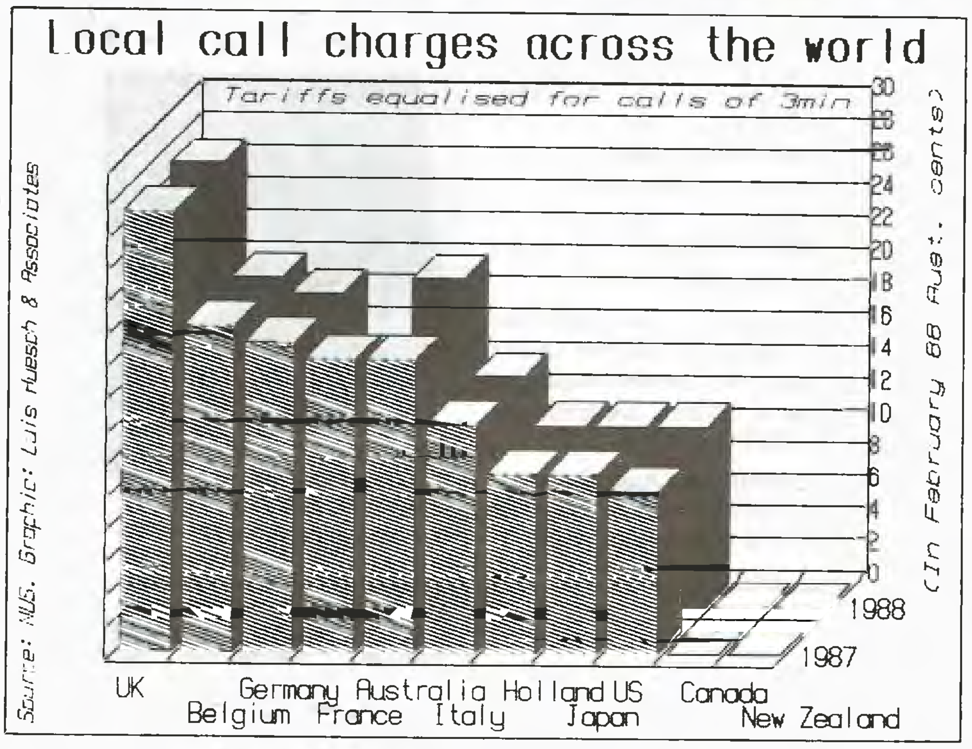
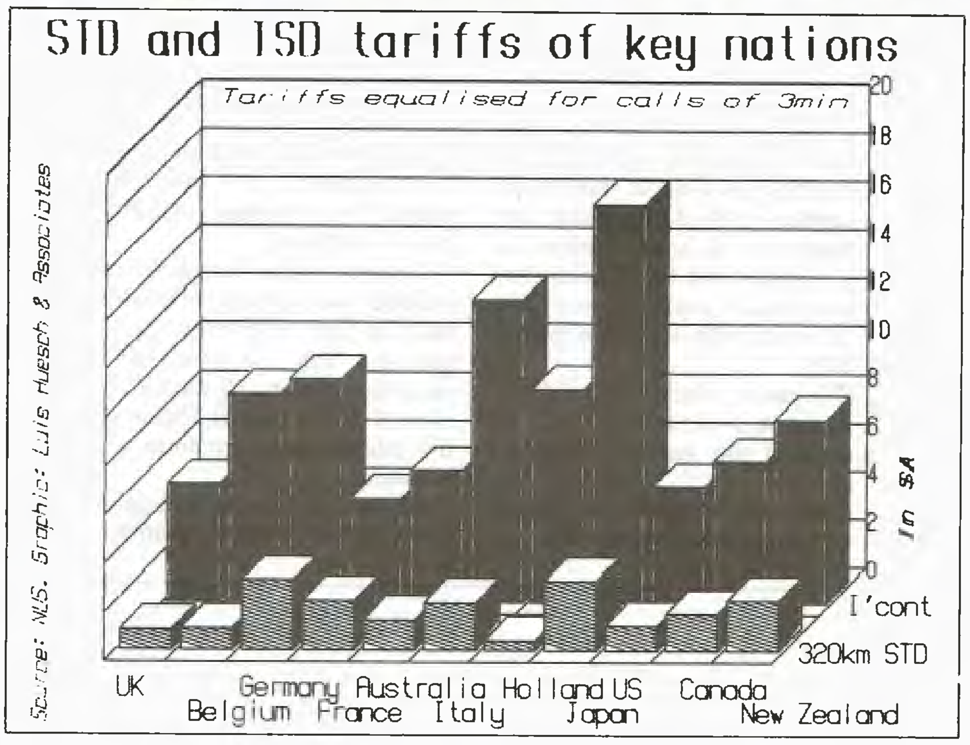
France leads in phone cuts



Source: NUS. Graphic: Luis Huesch & Associates



Source: NUS. Graphic: Luis Huesch & Associates

SYDNEY — France was the only one of 11 industrialised nations to cut local call charges last year, according to a recent study by NUS International, which argued that Telecom should go ahead with a 4c/min timed local call tariff.

Without time-charged local calls, the flat call rate would go up to 30 cents within three years, claimed the consultancy.

NUS's survey showed that not only did France cut its local call fee from 18c to 15c (−16.7 per cent), it also slashed trunk calls 25.6 per cent and inter-continental calls by a whopping 41.7 per cent, according to the telecommunications consultancy.

Other nations to have reduced trunk calls (a 320km 3-minute STD call was used as the basis for comparison) include Canada (−28.7 per cent) and the US (−8.8). Three-minute trans-Pacific or trans-Atlantic calls from the respective countries (other than France's 41.7 per cent reduction) saw prices tumble in Belgium (−41.1), Holland (−16.9) and Canada (−11.1).

Telecom, on the other hand, increased local call charges by 11.1 per cent and STD charges by 5 per cent — the only nation to do so — while the Overseas Telecommunications Commission (OTC) held inter-continental call charges at $A5.40 for the average 3min IDD calls.

NUS pleads for 4c/min fee

NUS telecommunications manager, Alan Ruff, pointed out that while Canada and New Zealand had free local calls, eight other nations in the study operated timed local calls.

"Our survey . . . results show that Australians are not getting the good deal that many believe on the majority of their local calls". This was because 65 per cent of all local calls were for less than three minutes, he said. Ruff noted that NUS had advocated timed local calls since 1984 as "a fairer and more equitable method of sharing as it would genuinely reflect cost of service and user-pays principles".

Ruff said Telecom's marketing strategy on timed local calls had been "naive". The monopoly should have adopted a simple sales message such as "Your local phone call for just four cents a minute", and embedded the proposal in a "package of radical tariff reviews, including progressive pricing structures, demonstrating the positive overall benefits to the consumer."

Swiss tariffs slashed again

BERNE — The Swiss PTT has reduced its tariffs for the sixth time since 1980 for telephone, telex and X.25-based Telepac connections, as well as for leased lines.

All telephone calls to a non-European country without an operator's assistance will be reduced by between 14 per cent and 44 per cent. All direct worldwide telex and Telepac connections will be 10 per cent to 43 per cent cheaper. Rented lines for all analogue data and speech transmission to other countries will be reduced 11 per cent to 22 per cent.

The telephone connections to Germany, France, Italy, Austria, Belgium, Luxembourg and the Netherlands will be reduced by between 6 per cent and 20 per cent, according to a spokesman.

Because of the reductions, the PTT's income in 1988 will be about $US94 million less than the $US346 million earned in 1987.

British users fighting 60 per cent price slug

LONDON — UK telecommunications users, facing price increases of up to 60 per cent for domestic voice and data links leased from British Telecom, are trying to get the rises quashed by the Monopolies and Merger Commission.

The British Telecommunications User Group has asked Oftel, the UK regulatory body, to take BT before the commission over the massive price increases, which were announced only a week after BT cut prices on international leased lines.

Oftel, meanwhile, has urged limits on future rises in certain business areas. Its director general, Bryan Carsberg said: "The current situation and, in particular, the lack of pressure on BT to improve efficiency in providing private circuits, show the desirability of imposing some formal price control on private circuits now that its prices are close to being in balance to costs."

Other BT price rises, scheduled for March 1, include a 50 per cent jump in connection charges for Access Lines and Kilostream digital circuits.

BT meanwhile has revamped its data services activities in a bid to become a world contender in the market for electronic mail and other value-added network services (Van). The newly created Dialcom group will combine the company's Vans, including Telecom Gold for electronic mail and Prestel for videotex.

Dialcom, with initial annual revenues of about $US100 million, will have four marketing arms serving the US, UK, continental Europe and other countries, the company said. Dialcom's electronic messaging software is used by Van in some 18 countries, including Australia (Keylink D).

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Wrangle likely on name of PC/modem server device

IDG News Service

FREMONT, California — Communications specialist Omnitel Inc claims to have devised a world first for firmware-based modems that turns a personal computer into a multi-user modem server.

But it will have trouble bringing it to the Australian market, at least with the name the company has chosen — the Netcomm (N/C) Product family.

Netcomm (Australia) director Chris Howells, asked if the Californian launch was a test marketing exercise by his company, said there was no connection. He said he was flying to the US next morning and would check out this "coincidence".

The Californian product reportedly creates a full asynchronous communications server on a network, providing cost-effective modem pooling for a large number of users. Up to four modem cards, each providing four modems in one, can be loaded into a PC server, supporting a total of 16 ports.

At the heart of what is described as a "modem in a processor," digital signal processing is used for typical analogue modem functions. The product also takes up fewer PC resources than outboard modem cards, because it is firmware-based.

Omnitel said the internal modem had been adopted already by MCI Communications for use with its Comm Desk Manager software in two scenarios — in a standalone workstation that replaces telex for accessing long-distance lines and for using electronic mail; and as a message server capable of determining message priority and best times to transmit, such as when rates are lower.

The Q2400 and Q1200 modem cards fit IBM's PCs and compatibles, are intended for local-area network and multi-user applications, and feature PC AT command set compatibility. The Q2400 has four 2400/1200/300 bit/sec modems on a full card and costs about $US1800. The Q1200 has four 1200/300 bit/sec modems on a full card and costs about $US895.

Asynchronous Communications Server (ACS) software at $US995 provides modem server capabilities for IBM Netbios Lans, autodialling, direct connection to hosts, and security features.

A Virtual Communications Adapter (V-Com), priced at $US179, replaces individual modems in workstations and directs communications traffic to the ACS server.

It is claimed that popular PC communications software, such as Crosstalk and Procomm, can be used simultaneously, and serial devices can be shared.

The Netcomm series can support up to 16 users and nodes, providing modem access to all network users at a significantly reduced cost, according to Omnitel.

To achieve the above configuration, a traditional approach calls for installing 16 phone lines and buying 16 internal modems.

Chris Howells . . . 'coincidence'.

Telecom forecast to lose billions unless TLC begins

SYDNEY — Telecom will lose revenue of $A2000 million a year by 1996 unless it introduces timed local calls with the introduction of ISDN services, a Telecom consultant has claimed.

Maurie Dobbin, managing director of Teleresources — the Australian arm of the BIS Mackintosh consultancy said: "An ISDN tariff to accrue voice revenues equal to the PSTN will, because of the higher transmission speed of the new service, allow data tranmission at around one tenth of present costs."

Telecom was planning differentiated tariffs for ISDN services at 10 to 25 per cent above present PSTN charging. "Even so, if ISDN connections were permitted on an untimed basis with the metropolitan network, these would greatly affect the other services promoted by Telecom, such as data transmission," said Dobbin, who has worked closely with the carrier on ISDN.

If the timed calls issue caused delays in lauching ISDN, Telecom risked losing revenue of $A2000 million a year in ISDN sales by 1996, he argued.

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MODEMS MULTIPLEXERS TEST EQUIPMENT LOCAL DATA DISTRIBUTION SERVICE

Riding the 'wave of change'

By Terry Watson

MELBOURNE — What is claimed by the organisers to be the largest display of communications equipment ever assembled under one roof in Australia will be seen at Atug '88, the fifth Australian Telecommunications Exhibition and Conference at the Royal Exhibition Buildings here from April 19-21.

The theme of the conference is "The Wave of Change", and it is aimed at providing those attending with the type of information needed to keep up with the changes happening in the communications arena.

Of particular interest should be a paper from Telecom consultant Henry Ergas, who will devote his time to the subject "Is the Wave (of change) a Dumper?" Subsequent speakers will detail the lessons to be learnt from overseas experiences.

The first day is designed in particular to give relevant information to company chief executives, while the subsequent days concentrate on changes in technology and the marketplace.

Workshops relating to ISDN, small business systems and communications strategies will take place over the following two days.

The conference will conclude with a forum where attendees may quiz the representatives of users, carriers, unions and industry upon their views about this "Wave of Change".

On the exhibition side of things, over 70 companies will provide products including cellular mobile telephones, data communications gear, encryption equipment, facsimile, office automation, optical fibre products, PABXs, satellite communications, switching gear, telecommunications test equipment, telemarketing products, telephone handsets, two-way radios, video conferencing, voice messaging systems and much more.

Visitors will also have the opportunity to learn about the latest developments in ISDN, networking and network management.

Among the major exhibitors are Alcatel, Datacraft, Hewlett-Packard, J N Almgren, Fujitsu, Mitsubishi, NEC, Plessey, STC, Siemens and, of course, Telecom.

The next issue of *Communications World* will be the vehicle for the official catalogue for Atug '88 and will be distributed at the show as well as to its 8500-plus subscribers.

Australia's biggest betting terminal manufacturer doesn't gamble on modems

Automatic Totalisators Limited (ATL) is an export-award winning terminal manufacturer. It supplies and operates systems to handle all on-course betting for the Brisbane Racing Clubs.

Because its equipment must be trucked to each track and set up before race day, reliability and performance are the prime requirements.

ATL also require the wide availability and cost savings of the telephone network.

So when they had to choose dial-up modems to handle communications between the race track and their central computers, they studied the field first.

They put their money on JNA's V.32 modems from Codex. In the ATL system, two JNA V.32 modems link as many as 180 betting terminals, interactive management terminals, plus on-course displays, over two dial-up lines, to two central VAX computers.

Handling over 900 transactions a minute at 9600 bps, full duplex, JNA's V.32 modems more than meet the ATL's minimum terminal response time.

Should line-quality drop, the V.32 modems automatically resynchronise to accomodate the new conditions without loss of speed – ensuring optimum throughput at all times.

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CALENDAR OF EVENTS

MARCH

☐ The **Australian MAP/TOP Interest Group** has organised a showcase to contain most of the MAP products available in Australia to be held in the John Clancy Auditorium, University of NSW, on **March 21** at 1.30pm.

AMIG members-free, non-members $40, students $10. RSVP by March 14, to Thelma on (02) 818 8282.

APRIL

☐ Intelsat, the 114-member-country organisation which owns and operates the world's communications satellite system, will hold the 18th meeting of the **Intelsat Signatories** on Hamilton Island in **April.** According to host, OTC, the conference will be attended by more than 120 delegates from around the world, who will discuss issues relating to the financial, technical, and operational aspects of the international satellite system.

Information: Wayne Grundy, OTC (02) 230 5114.

☐ **EDP Auditors Association Conference** (EDPAC88) will be held at the Conrad International Hotel, Surfers Paradise, Queensland, on **April 27-29.** Major topics include data and physical security, communications, personal computers, networks and system development.

Information: EDP Auditors Association, Sydney Chapter: (02) 250 0500.

MAY

☐ **Telecoms-Infotech Asia '88** will be held in the Bangkok Conventions Centre, on **May 4-7** and will focus on the latest in telecommunications and office automation.

Information: Conference & Exhibition Management Services, Bangkok. Telephone: 234 0356, Telex: 20593.

JUNE

☐ **The Enterprise Networking Event '88 International** will be held in Baltimore, Maryland, under the theme "OSI solution to enterprise-wide communications." It will offer a comprehensive technical program, including focus sessions featuring MAP/TOP/OSI technology as well as a variety of intensive full-day tutorials and workshops. The Conference will be held on **June 5-9** and the exposition from **June 6-8.**

Information: The MAP/TOP Users Group, One SME Drive, PO Box 930 Dearborn, MI 48121; Telephone: (313) 271 1500, Fax: 271 2861, Telex: 297742 SME UR.

☐ **The 2nd Australian International Technology Exhibition** (A.I.T.E.) will be held at the new Darling Harbor Exhibition Centre, from **June 7-11** and is expected to repeat the success of the first, where more than 100 companies participated with state of the art developments in aerospace, biotechnology, communications computers, energy, industrial and office automation, lasers, materials and metals, medical, microelectronics, and scientific and industrial instrumentation.

Information: Total Concept Exhibitions, Crows Nest, (02) 436 3266.

☐ **CommunicAsia/InfotechAsia** will take place in the World Trade Centre, Singapore from **June 8-11.**

Information: Oversears Exhibition Services, 11 Manchester Square, London, W1M 5AB, UK, Telephone: (01) 487 5831, Telex: 24591, Fax: 01-935 5637.

Car industry's EDI tests good

By Terry Watson

MELBOURNE — The initial trial period of the automotive industry's proposed electronic document interchange (EDI) system (*Communications World*, Oct 1987) has concluded with satisfactory results according to Colin Hill, chairman, Automotive EDI Committee.

"The test ran with very few hiccups, and we are now ready to proceed with a full pilot run involving the five motor manufacturers, a number of parts suppliers and two transport companies," Hill said.

"The benefits to industry in general of EDI communications are rapidly being proven overseas, and I believe that Australia must develop its systems quickly in order to remain competitive in the global marketplace," he added.

"The key issue is no longer one of technology. The communications systems are in place and have proved efficient and reliable. EDI now becomes a management strategy issue and a company's involvement in EDI must be at this level."

According to Leigh Baker, business development manager at ACI Computer Services, the use of EDI techniques in many industries overseas, including the motor industries in the US and Europe, has already demonstrated significant cost savings that may be realised for both the major manufacturers and component suppliers.

He said: "The introduction of EDI practices, while certainly involving the implementation of new technology, also involves a totally changed structure of business relationships between partners.

"At its most basic level, EDI technology provides for transfer of business documents between trading partners, with data being extracted from the originator's computer application, conversion to a standard format, passed through a central clearing house, delivered to the recipient, and passed into the recipient's application," he said. (See diagram.)

"However, with EDI practices in place, the trading partner becomes firmer, closer and longer term as organisations share information with suppliers."

He gave the case of an assembler/manufacturer who issues delivery schedule requirements to his component suppliers revealing his own forecasts (and from time to time new model release data), permitting the suppliers to manufacture to order.

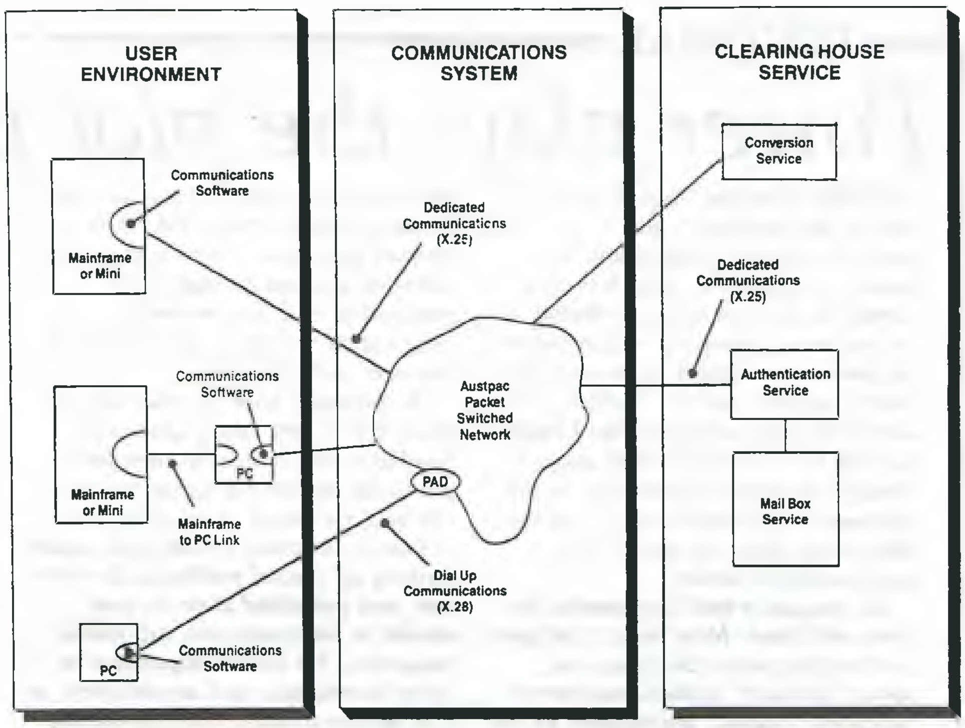
The result was that both parties reduced inventory and handling costs in all areas of operation.

As an example of large scale savings, Baker cited General Motors (Europe). The company manufactures some 500,000 cars per year. A survey of procedures indicated that this operation involved the consumption of around 120 million pieces of paper. The planned introduction of Just In Time systems would have increased this paper work by a factor of six.

EDI usage resulted in a huge reduction in paperwork and also reduced the multiplier factor in error rates caused by many people in the chain handling, changing and re-keying documents.

Although other players will enter the marketplace in the future, there are four main groups active in this field in Australia now.

Telecom via its Tradelink service is the provider of the transport mechanism; ACI Computer Services acts as consultant and supplier of software needs; and, the automotive industry and a group of retailers/manufacturers are at the stage of carrying out "live" pilot studies that will develop into EDI systems in the coming months.



The building blocks of Tradelink . . . Edi made eases

Market tipped to grow a hundredfold by 1992

IDG News Service

FRAMINGHAM, Mass — The electronic document interchange (EDI) market is growing fast, especially internationally, even though users often feel they are strong-armed into buying EDI or are unsure about its benefits. But US users alone are tipped to boost spending on international EDI services a hundredfold by 1992, according to analysts.

Link Resources, a New York research company, estimates that there are about 3600 active EDI user companies and predicts this figure will leap to 10,500 by the end of 1991.

Input, a Californian research firm, estimates EDI growth at a whopping 147 per cent a year, but Link Resources takes a much more conservative approach, projecting a steady upward growth of 45 per cent to 60 per cent a year to 1991 from around $US30 million dollars worth of EDI revenues last year.

Link recently surveyed EDI users from 20 major US manufacturing, transportation and retail companies and did not uncover wild enthusiasm for EDI among users. Although 75 per cent of the respondents cited internal interest in EDI, a significant 40 per cent said the impetus came from customers.

This trend confirmed an earlier new car industry association survey of 250 companies, many of whom said they had installed EDI only to accommodate customers.

Fifteen per cent said they installed EDI only because they had to. Even so, 45 per cent were very positive about EDI, and 35 per cent said they believed EDI was where the industry was going.

As for benefits, 35 per cent of those surveyed by Link said they did not know or it was too early to tell; 15 per cent said they expected to reap future savings; and 15 per cent said EDI was strictly a customer service.

Users also complained that the third-party provider segment of the EDI market was very fragmented. This made one-stop shopping difficult, leading to little, if any, vendor loyalty.

Although 65 per cent of the users said they were using publicly approved or industry-standard EDI formats, they often had to support proprietary formats from trading partners. Therefore, industrywide co-operative efforts were essential, Link said.

Internationally, the picture appears much rosier, according to Input. A recent report estimates the 1987 market at between $US75 million and $US90 million for network/processing services, software and professional services.

Some US EDI vendors, such as EG Information Services and IBM's Information Network, are developing strategies for international capabilities for two basic business reasons: their largest clients will require international support, and such services will bee necessary to qualify as full-service positions. Geisco recently missed out on the prestige Tradenet pilot for the Singapore Government, which chose IBM to plan the network intended to link Customs, traders and shippers.

Input believes there is rising interest in international EDI because of increasing US recognition of the associated benefits, reduced inventory, improved customer service, faster turnaround and lower costs. Thus US user expenditures for international EDI network and processing services are expected to rise from $US2.5 million this year to $US220 million by 1992.

Communications Managers, Consultants and Suppliers.

ISDN

Interface Standards and Services Seminar

The Integrated Services Digital Network (ISDN) will shortly be introduced into Australia. A 2-day Seminar is being hosted by Telecom to advise manufacturers, suppliers and consultants in the communications industry, along with corporate communications managers, about the network and interface standards applicable to this exciting, new infrastructure.

The Seminars will be held in:
Sydney, Hyatt Kingsgate Hotel, March 29 & 30, 1988.
Melbourne, The Southern Cross Hotel, April 7 & 8, 1988.

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EDITORIAL

Power play: the plot thickens

LETTING sleeping dogs lie is not one of the journalist's first commandments. Apologising in public, to his public, even less. I've stirred up enough of those dozing — not necessary sleeping — canines in my journalistic career to remain deaf to the resultant clamor. Publish, and damn the consequences. Yet I have just put on ice a juicy news story, a "scoop" of major proportions. In the interests of all concerned . . . as the glib phrase goes. So what's this commercial all about?

My tongue is tied. Eventually, the story will break. Most likely, if all goes well, in this paper. But there are some "unusual" politico/commercial practices involved, unpalatable for an avowed enemy of protectionism and monopoly power plays. So, like Montesqiew writing his Lettres Persanes *as if from the Persian court to a Parisian reader to avoid the wrath of an absolute monarch, I will cast my comment in the guise of a fable.*

Once upon a time, there were two warlords, strong enough to do each other devastating damage. But because they had trained under the great Miyamoto Musashi, they realised that they would be even more powerful if they agreed to map out areas where each would hold sway exclusively — much like the Spanish and Portuguese did in dividing the world under the Treaty of Tordesillas around the same time.

It all went well enough for a while, until the spoils of wars — even abroad — started to become scarcer, and other Ronin, or samurai not attached to any of the great houses, began to make inroads into their allotted provinces. Then one of the warlords allowed himself to be tempted to raid two provinces assigned to the other; for a while, it seemed, with impunity . . .

At the same time, accross the sea there was a very strong giant who lived in a well-protected cave from which he tended his herds. He also allowed the flocks of other favored herdsmen to graze on his lands, often fencing off special paddocks for their use, and permitted them to take shelter in his cavernous, monolithic mountain. He was as capricious as were his animals, and would often, as if to amuse himself, take big chunks of rocks from his mountain and throw them into the meadows surrounding his own lands, chuckling massively at the confusion and terror he was sowing.

He himself was the protege of a number of fickle lords, to whom he supplied a very fine wool without which they could not survive. He was also adept at stirring dissension among the lords to whom he was in thrall. But in his daily affairs he displayed an unusual clumsiness, due perhaps to the fact that he was intensely one-eyed.

This clumsiness, combined with the devastations he was causing, the fact that he constantly sought to fence off productive common land for himself and his cronies, and a widespread dislike that somehow seemed to well up against one-eyed giants, be they even benevolent, led to a fronde *of angry landholders forming, abetted here or there by a far-sighted lord, or a grazier neighbor whose streams had been diverted overnight. The* fronde *was initially formed merely to stop his depredations, and to re-survey his old boundaries. But as the clangor grew our giant began to fear for his livelihood should they prevail, indeed for his very life . . .*

He set about, in his usual clumsy way, to protect his domain: He first intensified fence-building, fortifying them now with moats and continuing to build them even after being warned off by his foremost lord. He also intensified his efforts at creating dissension, and set embarrassing and even dangerous traps for lords who were out a-hunting.

New in his strategy is a quest to form alliances and partnerships, first to make sure his grazing lands will continue to produce, then to ensure that even should he be flushed out from his cave, he would have sturdy stone-walled houses where to sup and sally forth on his business. Much of this activity went on under the cover of night, and therefore unhindered, and even the lords by whom he was held in thrall were often advised only after the ink had long dried on the parchment of his pacts. Not that he believed too fervently in pacts, treating them cavalierly when it suited his purpose. Pacta sunt servanda, *treaties must be kept, was the law the Romans lived by — and look what happened to them, seemed to be his attitude.*

Meanwhile the warlords . . .

(To be continued . . .)

Freer UK lures telemigrants

By Noel Bennett

SYDNEY — Nations wanting to act as hubs to surrounding areas should not only be concerned with their international carriers, but must also offer a more open internal telecommunications structure, according to UK telecomms consultant Peter Copping.

He said a number of large organisations had shifted their data centres or network nodes from the continent to the UK to take advantage of the less encumbered environment and greater options now offered following deregulation of British Telecom (BT).

Copping, a director of PA Computers and Telecommunications, UK, said some "interesting dynamics" would be occurring in the Pacific Basin over the next few years as nations such as Singapore, Hong Kong and Australia gear up to capture international trade and telecommunications traffic.

It would "not surprise" him if a second telecommunications carrier is established in Hong Kong, possibly by a consortium involving BT.

In Singapore, Copping said, the Telecommunications Authority was becoming increasingly aggressive, establishing dedicated networks for common user groups such as the retail industry.

With such competitive forces now operating in the region, other governments could no longer ignore the issue of deregulation.

The most important issue in the progressive and phased move towards deregulation occurring throughout the world was the definition of value-added services (VAS).

A number of governments had stumbled over this issue as they tried to define what could and what could not be done.

A better approach would be to define what was not allowed, such as providing a basic telephone service without some added value, or stipulating that services could not be sold cheaper than the rate offered by the national carrier. All other services outside that definition would then be allowed.

British Telecom was expected to take that stance by 1989.

VAS was attractive to users as it offered solutions to problems such as intermittent use, to which leased lines were not suited.

Mouse? What mouse?

THE hazards of keeping cats and mice in an open desktop environment should have been obvious to the most casual of users. As it happened, Present (the faithful feline who arrived on the scene 15 years ago as a Chrissie present) was the logical suspect when Logie-the-Mouse went missing . . . A call for help to Ms Microsoft Australia brought fast relief: a "Red-Eye Special" mouse arrived by courier, complete with extra long tail to reach those towering network servers. As if this present for the impecunious publisher were not enough, there also came the production version of Excel, the spreadsheet/database/graphics package he had admired even when it was still in its beta-test nappies . . . Does that mean I'm biased? You bet! Thank you, Linda!

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Associate Editor: David Beynon
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Western Australia: Winkie Corfield (09) 388 1828
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SYDNEY HEADQUARTERS:
IDG Communications Pty Ltd, 37-43 Alexander Street, Crows Nest, NSW 2065, Australia. Tel: (02) 439 5133. Tlx: COMWOR AA74752. Fax: (02) 439 5512.

MELBOURNE OFFICE:
IDG Communications Pty Limited. 74-76 Eastern Road, South Melbourne, Vic 3205. Tel: (03) 690 2933. Tlx: COMWOR AA33926. Fax: (03) 690 4362.

QUEENSLAND REPRESENTATIVE:
Jane Fewings, Media & Advertising Associates, 21 Kirkdale Rd, Chapel Hill, Qld 4069. Tel: (07) 378 4522. Fax: (07) 878 1071.

CANBERRA OFFICE:
IDG Communications Pty Limited, PO Box 21, Waramanga, ACT 2611. Tel: (062) 88 6982. Fax: (062) 889 821.

PERTH OFFICE:
IDG Communications Pty Limited, Suite 8, 272 Hay St, Subiaco, WA 6008. Tel: (09) 388 1828. Fax: (09) 382 3440.

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Despite DEC-Mac entente

Novell steals Dexpo limelight

IDG News Service

NEW YORK — Novell's new Netware VMS, a program that provides DEC Vax-to-personal computer network connectivity, was arguably the most important product unveiled at the recent Dexpo East trade show here. The program should be of particular interest in Australia's DEC community, which boasts an unusually high proportion of commercial sites.

Netware VMS is a software-only offering that works in conjunction with standard DEC Ethernet network adapters to enable personal computer users within a Netware network to share data and applications with DEC Vax computers. With the program, any VMS-based Vax can function as a network file and print server for PCs supporting Netware Version 2.0a applications.

Beta testing begins this month and the software is scheduled for third-quarter delivery. Pricing is server-based and ranges from $US5500 to $US26,500, depending on which Vax system is used.

It also operates with Netware Version 2.1, and Novell plans to make Netware VMS fully compatible with all Advanced Netware releases, according to the company. Among the other important services of Netware VMS are a virtual file server, full Netware record locking and filing, and terminal emulations.

Netware VMS combines Netware security with the Vax security system so that all security provision are under the control of the Vax system manager. Netware users can have the same user names and passwords on both the Vax and Netware networks.

The virtual file feature assures that each Netware VMS file is stored as a standard VMS file, so file space can automatically and continually be allocated. This means standard Vax backup and archive procedures can be used to back up Netware VMS data.

The terminal emulation program enables microcomputers to use Netware VMS to communicate with the Vax as if they were physically connected terminals. The server software runs on the Vax under VMS and includes the necessary device drivers to work with DEC's existing Ethernet interface products.

The user doesn't have to buy any additional hardware, according to Darrell Miller, Novell's vice-president of corporate marketing. "We just give the users the software tape. They load it on the Vax, and they're ready to run their program," he said. "The attached micros can use the same Netware they have today; users are unaware of whether they are sharing resources on a personal computer or on a Vax."

A single Vax can support Netware VMS, Decnet and DEC's Local-Area Netware VMS Vax systems using Decnet services. And because Netware supports 30 different network topologies, users on different networks — such as Token-Ring, Starlan and Arcnet — can connect directly to the Vax through Netware bridges.

Novell expects Netware VMS to be "as important as IBM Lan connectivity," said a company spokesman, who described it as a natural evolution in Novell product offerings because so many of the company's users have Vaxes.

"DEC has the largest minicomputer installed base — more than 140,000 now," the spokesman said. "That figure is projected to grow to over 260,000 by 1990. And 90 per cent of the installed DEC Vax machines are running Vax/VMS. Novell has an installed base of 1.5 million Netware workstations, and that means a lot of connectivity."

Merrimack (both of them) may find this photo only mildly amusing, but users will get the picture . . .

The Lan vendor targets in particular PC network users that want to connect to Vaxes. The company estimates it has Netware installed on 170,000 servers now and is selling its servers at the rate of 8000 per month.

Novell also promised to provide personal computer-to-Vax interprocess communications or application programmer interfaces (API) in future versions of Netware VMS. The APIs will allow developers to write distributed processing applications that can operate between workstations running PC/MS-Dos or OS/2 and the Vax on the same network.

Pact goes down well with users

By Josh Gonze

NEW YORK — Macintosh-to-Vax connectivity highlighted the three-day Dexpo East third-party developers trade show here recently when 220 vendors showed new products to some 9000 attendees only a month after the alliance between DEC and Apple was announced.

The show included a special demonstration, "The Apple-DEC Computing Centre", featuring the Macintosh line, Apple networking gear and products supporting Apple-to-DEC communications from about 35 third-party vendors.

Several other companies used the conference to introduce and demonstrate new products supporting Macintosh access to Vax systems and file sharing between the two environments.

To bring attendees up to date on the state of Mac-Vax connectivity, eight conference sessions were held on topics such as "Developing Mac/Vax tools and Applications" and "The MIS Perspective on the Macintosh in the DEC Environment".

Users at the show, most of whom work primarily with DEC equipment, generally approved of the alliance with Apple, saying that, for many applications, a tightly-integrated Macintosh/Vax network would be a viable alternative to an IBM network.

"It is intriguing to think of tying Apple's PCs with our Vaxes," said an Exxon official. Technical people prefer the Vax computing environment to that of IBM mainframes, but would still like the Macintosh user interface, he said.

Apple chief executive John Sculley said in his keynote speech the strategy behind the alliance with DEC was to combine Apple's desktop strength and popularity among nontechnical users with DEC's strength in enterprisewide networks geared toward technical users. "The market that DEC created and the market that Apple created are starting to need each other," he said.

Gartner Group market analyst Peter Schay said that for DEC, the purpose of the alliance was to use the Macintosh to counter IBM's Personal System/2. For Apple, the purpose was to ride DEC's coattails into corporate environments. But neither company had taken responsibility for the next big step in the alliance — systems integration.

'Knowledge navigators'

Sculley called the links between Decnet and Appletalk the first step toward an advanced computing environment that incorporates artificial intelligence to support desktop devices called "knowledge navigators".

He also emphasised that contributions from third-party networking and application vendors were considered essential to the Apple-DEC alliance. Users agreed: Boeing's Donald Williams was searching vendor booths for a product that provided a single-point connection between an existing Appletalk Macintosh network and an existing Decnet. He said executives at Boeing Computer Services preferred to use Macintoshes on an Appletalk network, but they needed access to a Vax acting as an electronic mail server.

VT terminal emulation would not suffice because it required an additional logon procedure and offered response times that were inadequate for busy executives. Williams considered the Fastpath unit from Kinetics would be appropriate for the physical interface, but he was still searching for the right communications software.

Two communications managers from a Vax-based data centre said that, for many applications, Macintosh-to-Vax connections would serve as an alternative to IBM offerings. About 60 per cent of the applications at their site involved word processing and report generation, for which the Macintosh was well-suited, they said.

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The Babel fish of computing

A superb show of multivendor co-operation

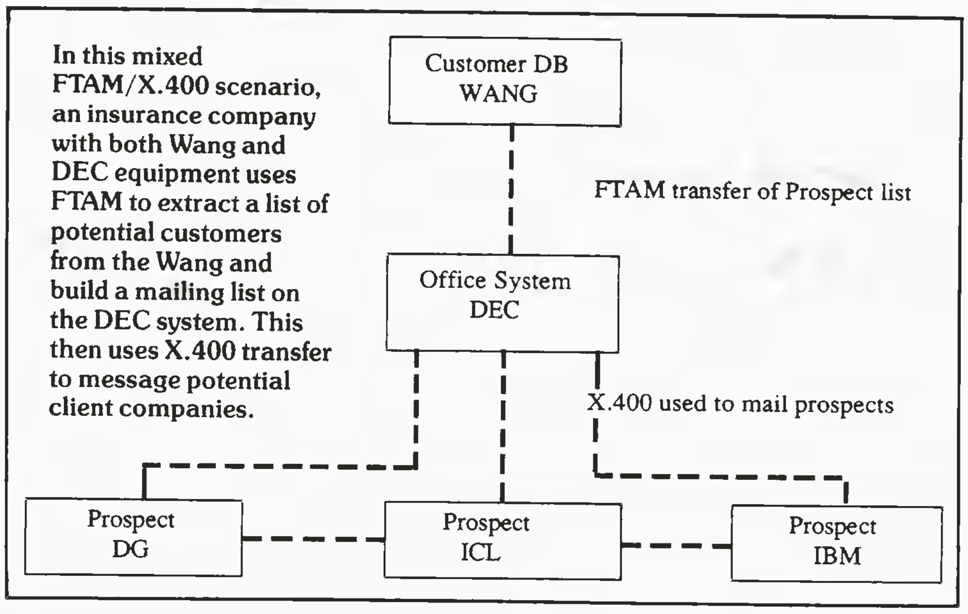
SYDNEY — After an entirely human gestation period, Australia's 32-member OSIcom (OSI community) recently produced an almost super-human show of multi-vendor co-operation with the launch of the OSIcom demonstration network.

The network, which demonstrated live interactive electronic messaging applications based on the X.400 message handling and the draft FTAM file transfer standards simultaneously in Sydney and Canberra, was officially launched by the Minister for Transport and Communications, Senator Evans — who described OSI as "the Babel fish of computing". (In Douglas Adams' *Hitchhiker's Guide to the Galaxy*, the Babel fish, when inserted into the user's ear, translates any language into that of the listener.

Four scenarios were played out by the participants, linked via Austpac and modems at 2400 bit/sec: a customs clearance application, an insurance company database/WP/e-mail application, an advertising agency e-mail/fax application and an FTAM application involving distributed processing of police motor vehicle records (in which one of the PCM mainframes involved repeatedly refused to talk to IBM).

The Customs scenario was very much in the nature of an EDI application, (with Customs using IBM equipment), a carrier (Honeywell Bull), an import agent (Datacraft) and a receiver of goods (HP) exchanged waybill, customs entry and release authority with the greatest of ease, allowing goods to be cleared by the importer even before their arrival in port. Electronic transfer of funds could also have accompanied the process.

The transfer highlighted the potential for local innovation: Datacraft showed the onscreen message exchange in the form of a stack of high-resolution colored envelopes (stamped, no less) which could be opened by clicking on them if one wanted to read the contents. Managing director Peter Prior said the company intended to license the interface technology to domestic and overseas X.400 developers.


In this mixed FTAM/X.400 scenario, an insurance company with both Wang and DEC equipment uses FTAM to extract a list of potential customers from the Wang and build a mailing list on the DEC system. This then uses X.400 transfer to message potential client companies.

All demonstrations worked impressively well, a testimony to the many months of co-operative development and testing by the 11 vendors concerned. "This co-operation is perhaps the greatest achievement of OSIcom", said Gary Dickson, chief executive of the National Protocol Support Centre (NSPC), summing up the sentiments of most.

Conceived nine months ago, OSIcom is intended as a "show, not tell" ongoing demonstration network to present to intending OSI users latest developments and prototypes of applications and equipment operating under OSI standards from OSIcom participants, which range from Datacraft to Wang Australia.

At the same time, the network's availability is expected to accelerate the development of OSI-compliant products in Australia. Initially, the focus will be on wide-area multi-vendor e-mail demonstrations and file transfers. Data General, DEC, Fujitsu, Hewlett-Packard, Honeywell Bull, IBM, ICL, Nixdorf, Unisys and Wang took part in last months' demonstration.

Senator Evans applauded the "initiative, spirit of co-operation and alacrity shown by the local industry in creating an OSI community in Australia".

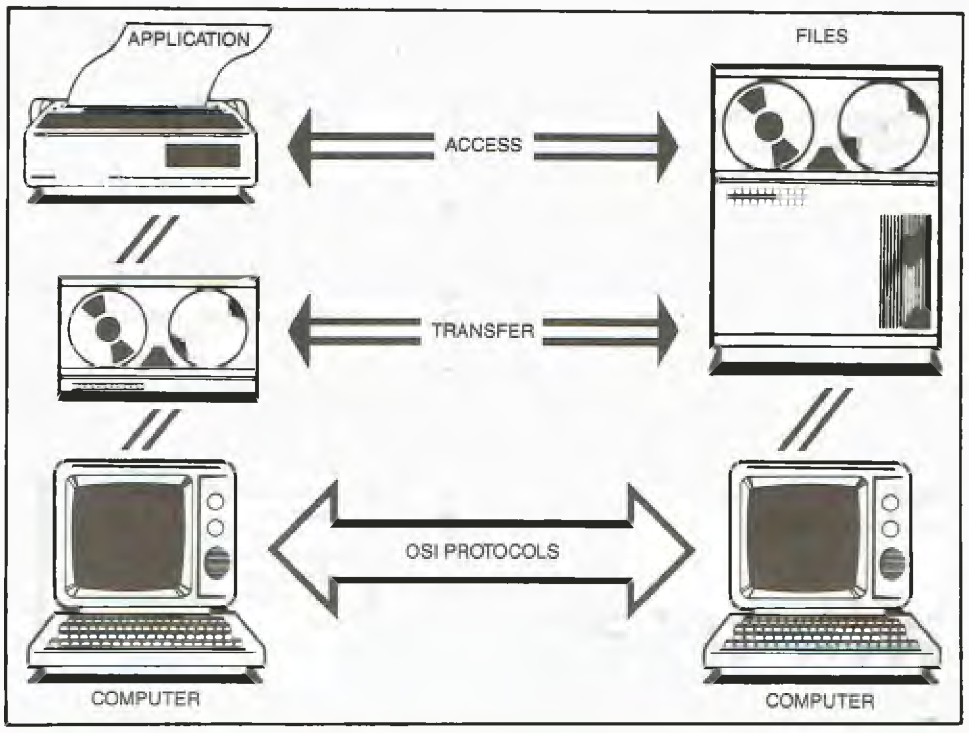
But he gave a somewhat "buck-passing" answer to DEC (Australia) managing director Frank Wroe who asked about support for OSI through government procurement policies.

However Mark Woodley, of the Department of Finance, said the government's new information exchange steering committee was looking at setting policy on OSI use and was "a fair way down the track". Government OSI procurement (Gosip) policies have already been set overseas, notably in the US and UK, where tenders now stipulate that equipment must conform to OSI standards.

The Overseas Telecommunications Commission (OTC) used the demonstration to show off its as yet unreleased facsimile gateway service, which allows X.400 standard e-mail users to send their messages directly to fax machines. Telecom, over whose packet-switching network the show was run, was notably absent. Even its majority-funded joint venture with OTC, the Keylink e-mail service, was only alluded to by Senator Evans. Tradelink, the Telecom venture into EDI (electronic document interchange), could well have used the occasion for a marketing coup — but then I guess the carrier is not really into that game in earnest, yet . . .

At least two of the systems on show, the workstations from Nixdorf and Unisys, ran machine-resident Unix implementations of X.400.

According to BHP's Gus Ferguson, who provided a running commentary on the interworking of systems and applications during the demonstration, this year's CCITT plenary meeting in Melbourne is expected to add the ODA (Office Document Architecture) standard for exchanging revisable text, graphics and image, such as facsimile, to X.400. The X.500 standard for named directory services is also expected to be finalised at the December meeting.



X.400: it's all coming together

Pen pals go hi-tech

SYDNEY — Electronic mail is being used to forge special bonds between schools all over the world by Computer Pals, the brainchild of a Sydney high school teacher dedicated to both communication and communications.

Computer Pals, which already links some 200 schools, expects to expand this e-mail network to more than 1000 by the end of this year, following a $A60,000 sponsorship by Epson Australia, and assurances of continued support from the OTC and the Keylink dialup electronic messaging service, Keylink is used to help student exchange letters and information with their peers abroad.

Malcolm Beazley, head of the Turramurra High School English department and project director of the four-year-old experiment, said during the sponsorship announcement last month that Computer Pals has become an official bicentennial project celebrating Australia's birthday internationally.

Representatives from the linked schools will meet in Alice Springs in April for their first world conference, discussing "Sharing in a global classroom".

The Computer Pals projects aims to give students the chance to improve their written communication skills "in a real context", develop keyboard skills and familiarise themselves with the use of international telecommunications. The schools are matched — generally one to one — according to areas of interest and follow a suggested curriculum including "electronic journalism".

Beazley said the project was fact becoming an important educational tool for students with special needs, including disabled or isolated children. For example, Yirara College in Alice Springs, which includes a unit for deaf Aboriginal students, is linked to a school for Eskimo children in Alaska and a school for deaf children in Auckland, New Zealand.

"For deaf children it (Computer Pals) offers a way to communicate with something approaching the immediacy of speech," said Beazley. A teacher at Yirara, Rosemary Yule, says that even blind children can take part. "They touch-type or use a Braille keyboard. They can receive messages through a speech synthesiser."

IBM focus on imaging and PC communications

BOCA RATON, Florida — IBM sees imaging and PC communications as two key arenas for an increasingly powerful PS/2 line, and will deliver at least two intelligent subsystems with co-processors that exploit the advantages of its Micro Channel architecture by Comdex/Fall '88.

The company is working on a file management subsystem based on the small computer systems interface (SCSI), a graphics subsystem, a numeric co-processor and various communications products.

"We'll focus first on communications cards, because they have a high level of interrupts that can be best serviced not by the main engine but by an intelligent subsystem," said Frank King, vice-president of IBM's Entry Systems Division, at a strategic directions briefing here recently.

By mid-year, IBM will have a 3½in hard disk drive that can handle 100M-bytes of storage and a 5¼in drive that handles up to 600M-bytes. This will allow the PS/2 Model 80 to serve as a more effective departmental OS/2 file server.

In other hardware-related projects, IBM said it is also working on the following:

- A removable read-write optical disk drive, to be delivered in early 1989, that will help the company gain a foothold in markets such as image processing.
- A 12Mips graphics processor aiding the performance of IBM's Presentation Manager.

King said the Micro Channel architecture was created to allow a PC to connect to a variety of hardware devices and local-area networks, not to run multiple on-screen software applications.

"What we are finding is that users who stress communications and new applications like image processing increase dramatically the number of things they want to do concurrently," King added. "We are seeing more configurations where they want to attach to several Lans or hosts."

'Market has not yet reached the critical mass needed to move forward'

'Ignorance' of users slowing e-mail growth

LACK of user awareness and the resultantly poor market acceptance of the technology are the two factors most impeding the growth of electronic mail in Australia. According to a Compass Group report, vendors must be more aggressive in educating users in the advantages of electronic mail systems.

The Compass survey shows that while around 40 per cent of Australian users believe they have the capacity for electronic mail on their system, only 12 per cent are regular users.

Compass says there are many factors both fostering and hindering electronic mail market growth. Those that may lead to greater growth are:

- The continued high sales of personal computers (still growing by more than 30 per cent per year).
- Many Australian organisations' serious consideration of tying together their different workstation technologies, using networking and Lans.
- The cost of using existing and established data communications facilities. This cost is not decreasing in line with the smaller capital expenditure costs of the technologies that drive data communications.

"The market has not yet reached the critical mass to move forward with any degree of momentum," said Compass Group's managing director, Jennifer Adelstein. "This critical mass is key to the development of the electronic mail market, as it was to the development of the fax market in the early 1980s."

The report concludes that the lack of a high user base in Australia prevents more potential users being attracted to the technology, as there are not enough people to form the nucleus of an influential user/lobby group.

Electronic mail is not a take-it-of-leave-it technology," Adelstein said. "To function effectively in an organisation everyone has to be on the system."

The ubiquitous presence of Telecom in the communications field is a mixed blessing, Compass argues: it is restricting growth in a manner not possible in deregulated markets, yet exercised a level of responsibility many other countries lack in this field.

Of the publicly accessible electronic mail systems, fax sales continue to grow rapidly — Compass expects an annual growth of about 50 per cent in 1988 — while telex declined by nearly 13 per cent in both usage of existing systems and purchase of new ones in 1987. The size of the telex market (that is, the number of installations) fell by three per cent, yet Telecom's telex revenue fell by seven per cent, due to price reductions and decrease in service demand.

"This trend will continue, and by the end of the decade telex will be declining at a rate approaching 40 per cent, largely due to diminished terminal usage," the report states. "While telex has the potential to maintain its position in Australia, low-cost alternative technologies have started to erode the market.

(Continued page 16)

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KL001

Time, and the human factor

By David Buerger

OFTEN those at technology's vanguard lose perspective on why particular systems do not work. We throw high-tech "solutions" at users, only to find that our ladders to success lean against the wrong walls.

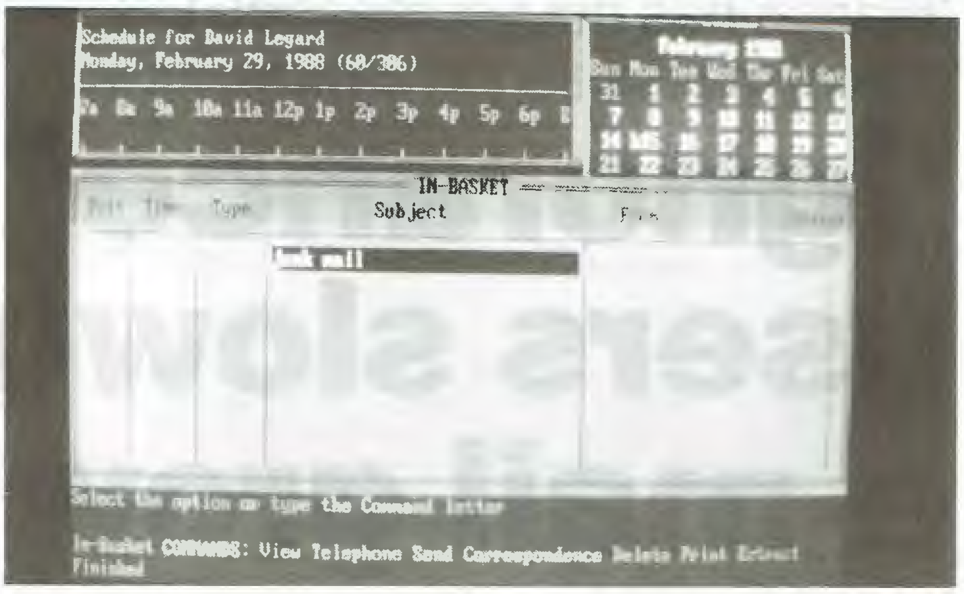
A prime example is electronic conferencing and mail. I wrote recently about deficiencies in e-mail systems that prevent them from being used effectively. Several vendors later told me that their products answered my complaints.

I thought about their letters and wondered, if the technology is available, why more people are not using it.

Aside from the excuse of poor marketing, most of the reasons I came up with have little to do with the technology itself.

For starters, let us talk about time. While e-mail and conferencing systems supposedly save time, many users find they require more time than telephoning or dictating a memo.

How long does it take you to read this page? How long would it take for you to type it? For some, the process of typing this page can seem like eternity. No matter how easy a personal computer is to use, all the mice and menus is the world cannot help poor typists.



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Schedule for David Legard
Monday, February 29, 1988 (60/306)
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7a 8a 9a 10a 11a 12p 1p 2p 3p 4p 5p 6p
February 1988
Sun Mon Tue Wed Thu Fri Sat
IN-BASKET
Type
Subject
Junk mail
Select the option or type the Command letter
In-Basket COMMANDS: View Telephone Send Correspondence Delete Print Extract Finished

This is particularly poignant in the case of slow typists who must use realtime conferencing systems. Surely they feel embarrassed when other participant's comments whiz by at 50 words a minute, while their thoughts dribble by at a snail's pace.

Others find it difficult to think in real time. They need several drafts before items they write are adquately cogent for public consumption.

Some people are unable to create thoughts on a keyboard. These addicts of the yellow pad conceivably might be at a disadvantage in an electronic environment. Their belly-to-belly communications skills could take second place to the persuasive prose of skilled writers.

An ironic twist to the time issue is that e-mail and conferencing systems may, in some circumstances, be too fast. The press of business deadlines often requires speedy responses to e-mail communiques.

As a result, many become used to answering e-mail quickly. Some decisions, however, for political or practical reasons, are best delayed. Certain issues require careful thought before taking any action. This means we must overcome the urge to provide instant answers to every question that crosses our screen.

Some managers — especially those high in corporate management — resent the uncontrolled access e-mail gives their subordinates. Managers used to be able to drop controversial memos in a drawer and put off making decisions, or deny ever having received documents.

But senders can now track receipt of electronic documents. Every time a manager logs in, the fateful memo stares back from the screen until it is resolved. Managers' participation in e-mail systems requires them to commit to one more task in a busy day.

Such connectivity requires that everyone has easy access to the electronic mail or conferencing system. In practical terms, just about everyone needs a terminal or PC on the desk. If a businesss is hard-pressed to fund such capital requirements, use of e-mail will be less than successful.

Once people get accustomed to e-mail addressing schemes, e-mail is fairly easy to use. Many people do not use it, however, because they feel intimidated by its perceived operational intricacy. Perhaps some fears are related to their experience of procuring a PC, learning its use, and observing the complex process of network installation.

These same people do not hesitate to pick up a telephone and place an international call. Interestingly, the telecommunications system supporting their call is equally as complex as the e-mail system. Their technological exposure, however, is limited to using the familiar handset.

The realities affecting limited use of electronic communications system often are psychological, human-oriented issues. Engineers and high-tech managers would do well to keep such factors in mind as they plan the creation and implementation of these and other technological systems.

● *David Buerger is director of the Personal Computer Centre at Santa Clara University, in California.*

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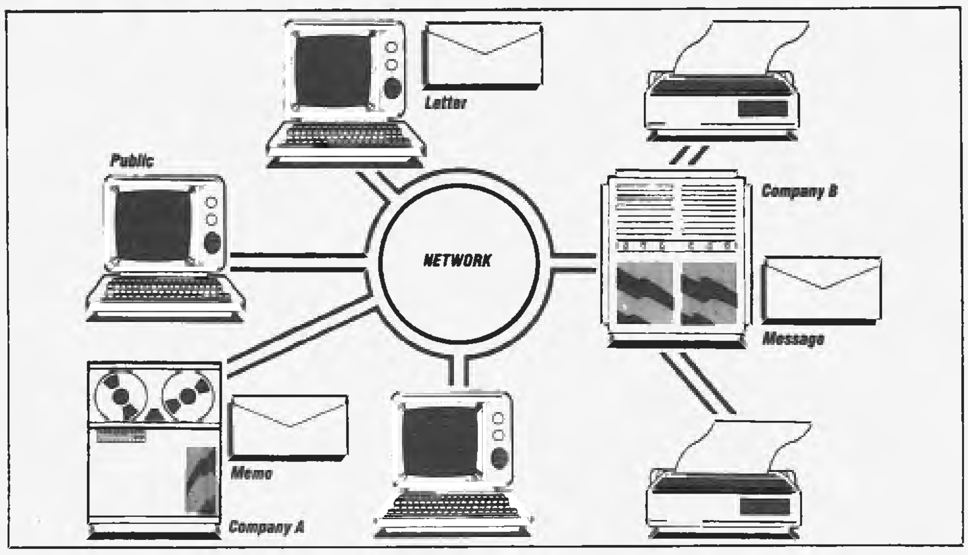
Return of the native . . .

Keylink on slow climb back

By Luis Huesch



SYDNEY — Australia's "native" electronic messaging service, Keylink, is slowly digging itself out of the marketing hole created by the "explosion forming" that forged OTC's Minerva and Telecom's Telememo e-mail services into a joint offering last year.

Customer numbers are inching up once more (Minerva in its heyday listed some 2500 individual subscribers, Keylink was said to have 1500) to a total of almost 2000 at last count, helped by Keylink's first advertising campaign last month, aimed squarely at business users.

According to Keylink marketing manager Paul Heath, there has not been attrition so much as a "refinement of our customer base": the 2000 clients now on the service operate some 15,000 mailboxes. One unidentified customer has 3000 operative mailboxes. Needless to say, the company involved is enjoying undisclosed "special rates". For the marginal user, there is a $A33/month/mailbox minimum charge.

Heath says the larger customers tend to congregate on Keylink T (the former Telecom offering that uses the US Telemail software) because of the hierarchical directory structure it offers to users, and because it can support larger custom-tailored messaging applications.

From March 1, Keylink T customers can reach GTEMail and other US networks.

Internationalist

Keylink D clients tend to be found among the more internationalist companies: they can already correspond with partners on systems in the US, Canada, the UK, key European nations, Israel, Japan, Pacific rim countries and, of course, New Zealand.

Also new on Keylink D from March 1 is binary file transfer, which should make the system even more attractive as a "hub" between disparate systems. In the past, this use has been restricted to Ascii file transfers. Keylinks binary file transfer supports two error-checking protocols, cyclic redundancy check (CRC) and checksum, and will operate with communication programs using either the Xmodem and Ymodem transfer standards. Most PC communications programs support these public domain standards for single and batch file transfers.

According to Keylink, data may now be stored in expanded hex, binary or Ascii format, and files may be converted from eight-bit to seven-bit Ascii if required.

Keylink officials note that not only can desktop publishing files with embedded formatting codes be uploaded into Keylink and downloaded by others, but software can be exchanged or programs updated remotely for users.

Communications World, for instance, has been able to use its Keylink mailbox as a "virtual Lan", sending articles from an IBM PC-compatible machine at the editor's home office to a Macintosh attached to the paper's phototypesetter.

In future, spreadsheets created under Microsoft Excel on the PC, for instance, can also be sent to the Mac . . . Keylink T users will have to wait a little longer for binary file transfers. Split data rates (1200/75bits/sec) for database access by people being so (ill) equipped are now also offered.

There being no such thing as a free lunch, the new facilities come accompanied by higher fees: volume charges have doubled to 4c a kilo-character. National telex also went up 10¢ to 50¢/minute on March 1. Heath is "confident we will have X.400 this year". According to Heath the service is going through its own evaluation of the message handling software and carrying out unspecified "field trials".

However, there was a "significant investment" involved in supporting X.400 messaging, and the Keylink board of OTC and Telecom representatives would have to be convinced that customers wanted it before spending money on it.

Keylink D customers at present must use the system's *telex* gateway to communicate with any correspondents on the other side of the partition . . .

Keylink is also "seriously looking at a Keylink-to-fax interface", said Heath.

Fax-Mail™: Electronic Messaging that's Fast, Flexible, Powerful, Simple

Fax-Mail is a family of complete hardware/software communication systems that link personal computers and facsimile machines. Fax-Mail systems plug into IBM PC/XT/AT or compatible computers, allowing them to communicate with any Group III fax worldwide over standard telephone lines. Text and graphics prepared on the PC using standard software can be communicated directly to a fax. In addition, the PC can receive messages from fax machines and store them on disk. Fax-Mail includes software to display files on any standard monitor or to print them out.

Fax-Mail provides a number of advantages over other methods of delivering messages.

Fax-Mail Saves Time.
- No secretary or operator time is needed. Automatic transmission means Fax-Mail can deliver documents to multiple sites, unattended.
- Transmission takes place in minutes, not hours, as is the case with overnight courier services.
- Fax-Mail eliminates the re-keying—and consequent mistakes—of Telex.

Fax-Mail Saves Money.
- Automatic transmission means the user can send messages when telephone rates are low.
- Fax-Mail is less expensive than stand-alone fax machines.
- Fax-Mail doesn't require expensive special thermal paper—or any other kind of paper.
- It is cheaper than overnight couriers for most documents.

Fax-Mail Is Powerful.
- Documents can be stored, forwarded, and edited.
- Fax-Mail works in the background while other PC applications run in the foreground.
- Fax-Mail can work around the clock.

Fax-Mail Is Better Than Electronic Mail or Telex.
- Fax-Mail supports both graphics and text, giving it an advantage over both Telex and electronic mail networks.
- Compatibility is not a problem. The CCITT has set international fax standards; this means Fax-Mail can receive documents from or transmit documents to any Group III fax machine, anywhere in the world.
- Fax-Mail is faster than electronic mail. Fax-Mail 96™ has a transmission rate of 9600 bps, Fax-Mail 48™ a rate of 4800 bps, and Fax-Mail 24™ a rate of 2400 bps. Electronic mail is limited by the speed of the modem, which is typically 1200 bps. Telex is even slower.
- Fax-mail is more convenient and flexible than either Telex or electronic mail. There are no complex log-on sequences or electronic mail addresses.

Fax-Mail Is Easy To Use.
- It is menu-driven for ease of operation.
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- Manual mode allows the user to switch between conversation in voice mode and document transmit or receive in fax mode—on the same telephone call.

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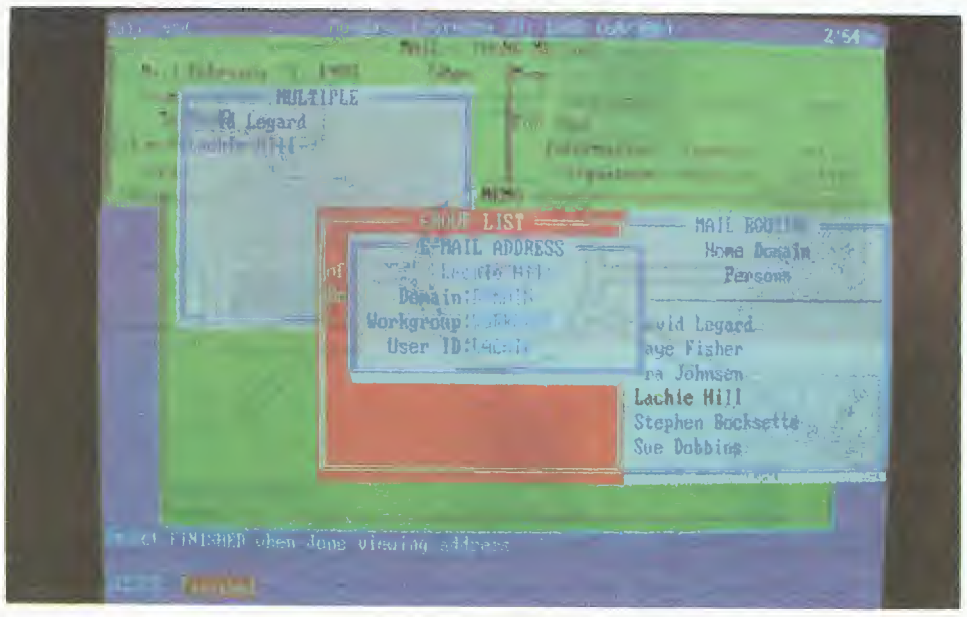
The battle fax can't win



By Luis Huesch

ELECTRONIC mail has suffered massive setbacks from facsimile in the past year or two, but its protagonists soldier on regardless, comforted by the certainty that at the end of the day e-mail will prevail — in part simply co-opting the rival technology.

Facsimile gateways operating under the OSI X.400 protocol are even now being added to public messaging systems such as France's Atlas 400, on which users can send e-mail messages to fax machines or vice versa.

Combine the inherently greater utility of electronic messaging — after all, when you get a fax, you can do little more than read it, whereas an e-mail message downloaded to your computer can be further processed — with a PC facsimile card and you have the best of both worlds: since most of your correspondence originates on a PC why not just fax it straight from there?

Admittedly, there are some bugs that remain to be squashed including background operation of the fax card in the PC (most don't, really), and text-to-fax conversion (a slightly tedious process, lots of scope here still for garage-based software houses). But on the whole I will contend that an organisation that sends a lot of faxes originating inhouse is better served by the above-named combination.

An alternative would be the type of fax management system introduced recently by standalone fax makers such as Canon, Ricoh and Xerox. The Xerox Faxmaster 21, for example, consists of a PC controller board and software which lets a user convert Ascii text to fax format for sending mes-

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(Continued from page 13)

"In the light of this decline, Telecom faces a dilemma: how to minimise damage from lost telex revenue while gracefully allowing telex as a communications medium to meet its demise. Telecom is currently planning 8-10 years' support for telex, yet evidence clearly indicates that the telex market will be very small by the early 1990s."

One of the most effective means of electronic messaging in Australia is teletex, but the report casts doubt on the viability of the technology in Australia.

"We estimate that, as Telecom has only 200 teletex installations in place, it will have no more than 1000 by the end of 1988. Teletex will suffer the consequences of a technology delivering much too little, much too late."

Overall, Compass believes teletex will not find wide acceptance here for the following reasons:

- It is competing against a developed technology (fax).
- It has not taken off in the US and will fare even worse in Japan, a country with a large facsimile base.
- It must compete in a market that will be dominated by fax and PC/fax addons for the next three to five years. Teletex can now offer speeds no higher than 2400 bits/sec, as opposed to fax's 9600 bits/sec.
- Telecom could wind up competing against itself, as the introduction of its X.400 gateway may eliminate the need for a teletex terminal.

They are more optimistic about the prospects for the Telecom/OTC Key-Link e-mail offering which it projects will overcome an initially slow market acceptance to win over the corporate sector during 1988.

In summary, the report says there are three key issues electronic mail vendors must address over the next two to three years if they are to be responsive to, not only perceived user needs, but real needs in an office environment. These are:

- How existing hardware will integrate into proposed (OA) solutions.
- Whether the transition from standalone communication devices (fax, modem, telex terminal) can be made without loss of productivity.
- Who is to be reached once the new mail system is in place, and how these new users will be found.

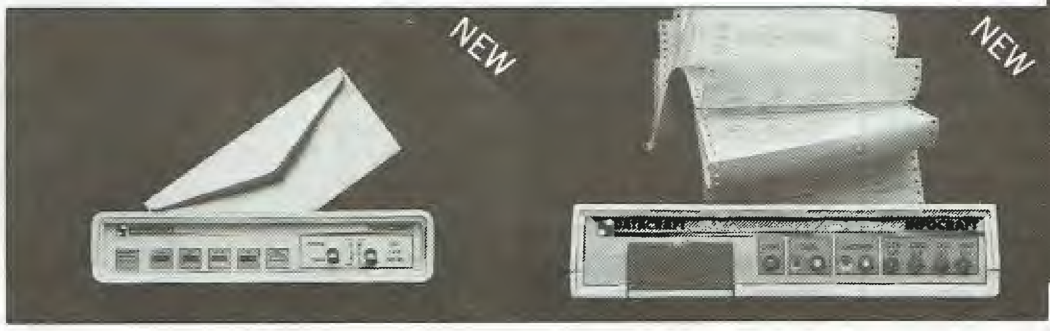
"It is fundamental to these issues, however, that vendors heighten user awareness about the benefits of electronic mail, both in cost and productivity," the report concludes.

"We have found that the greater the user's technological sophistication, the greater is their need for electronic mail."

We've simplifi
choosing a q

Until now modems have been an alphabet soup of letters and numbers and features. It seemed that nowhere could you find a straightforward evaluation of modems matching features with price – clearly explaining the differences, and how they affect you. Now Datacraft has cut the confusion, with this new range of highest quality dial-up modems.

1. Mailcraft 2. Infocraft 3. Quadc



1. Mailcraft For most occasional users of data communications, this modem is your low-cost entry to the world of electronic mail boxes, Viatel, and point-to-point file transfers.
Speeds: 300 and 1200/75 bps.

2. Infocraft Datacraft quality at a low cost. Point-to-point information transfer for retailers, motel chains and legal firms, where reliability of data is particularly important. Connects with all major computer systems so it will link PCs to a mainframe host, or to a database or to other PCs. 1200 bps, Hayes autodial.

3. Quadcraft Unbelievable price for an error correcting quad: this four-speed dial-up modem connects to most data services, mailboxes, bulletin boards and computer sites around the world. Will automatically call, answer, and adjust itself to the other modem's speed. Ideal if you regularly access subscriber databases. Or for a branch which

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Fax Cards for PCs

Product	Vendor	Data rate (max)	Tx/Rx in background?	On-Screen Alert?	On board Ram	On board CPU?	PS/2 /MCA or PC compatible	Auto Rescheduling?	Scanner port?	Management Report	Telecom approved?	Price (inc tax)	Comment
Datacopy Jetfax	TCG Marketing	9.6	Both	N	16K	Y	DC & PS/2	Y	N	Y	Y*	$2200	Up to 300 dots/in scan density. * Final testing for approval is underway.
Gamma Fax	System Solutions	9.6	Both *	N	N	N	PC	N	N	Y	Y	$2545	Telecom Authorisation C87/25/46. * Background mode runs on Double-Dos.
Starcard	Starcard Corp	9.6	Both	N	750K	Y	PC	Y	Y	Y	Y	$2995	CPU-MC68000. Scanner port and serial port are onboard if needed. Des encryption.
Faxmail	Telecost	9.6	Both	Sound	2K	Y	PC	Y	N	Y	Y	$2240	CPU-28681. Compatible with PC XT/AT and PS/2 Model 30.
Microtek Virtual Fax	Impact Peripherals	9.6	Both	Y	N	Y	PC * & PS/2	Y	N	Y	Y	$2044	* Also Apple Macintosh compatible.

This table lists only a handful of PC fax cards out of perhaps a dozen believed to be on the market. In several cases marketing managers contacted failed to provide information by our deadline.

sages from the PC via the Xerox 7021 fax machine as detailed in *Communications World* in February.)

Acceptance of the fax card could be speeded up by the various e-mail services upgrading to a 9.6K-bit/sec data rate, or even 4.8-bit/sec, as this would allow efficient dual use of the card's native modem and obviate the need for duplicating such a still reasonably expensive component.

Fax is still growing at a much faster clip than even e-mail enthusiasts may fear: NEC's marketing manager David Groom expects the current base of 100,000 machines to have doubled by the early 1990s, their rate of increase being estimated at 50 per cent a year. NEC Australia claims to lead in this onslaught, asserting that on the basis of Japanese export figures and statistics of the Office Industry Association, it held 17 per cent of the local market last year. Other major vendors, according to NEC, are Canon (15 per cent), Ricoh (14), Sharp (10) and Voca (5). Groom expects fax to increasingly move out into non-business areas, with a wide range of household applications on the way.

Xerox Australia's national sales/marketing manager for fax products, Harvey Latner, who says some 60,000 machines were installed in Australia last year, also expects growth to continue, at least until the advent of true ISDN systems in the 1990s.

A table listing some of the PC fax cards on the market (not all suppliers considered it worth their while to suply details) is given above.

Returning to e-mail proper, we need to distinguish between at least four levels of service: public e-mail systems such as Australia's Keylink, often operated by the national PTTs or alternative carriers. This type of service includes the various international Dialcom services, BT Gold 400, the French Atlas 400, West Germany's Telebox, Japan's PC Network and Messavia, various US Telemail-based offerings, AT&T Mail, Easylink, MCI Mail and so on.

Pledged to X.400

The majority of these services are pledged to adopt the OSI X.400 message handling standard, which will make for international inter-operability of the e-mail services concerned. Many of such services offer facilities for EDI-type forms exchanges and other applications programming that go beyond mere memo-passing or mailing list document distribution.

According to a recent report by consultants BIS Mackintosh, the US leads in this field with 1.2 million public e-mail boxes in use last year, followed by the UK (110,000), Canada (90,000), France (20,000), West Germany (15,000), Italy (3000), Australia (2500) and Sweden (1500).

Next on the scale of e-mail offerings are those from the world's value-added network services (Vans), including The Source, Compuserve, Geisco, Infonet, Tymnet and so on. In this category, too, must be counted closed-user group services such as the US Defence Department's worldwide Arpanet; Nasa networks such as the worldwide Space Physics Analysis Network; the mainly academic community's Unix-based Usenet; the various scientific networks as well as specialised electronic conferencing systems including McGraw-Hill's Bix (Byte Information Exchange).

According to the Australian Bureau of Industry Economics, e-mail can be expected to receive a boost in the deregulation of carriers: after liberalisation in the UK. e-mail accounted for almost a quarter of all registered value-added network services, in Japan at least 30 of the new competitive carriers have begun offering e-mail services.

Next level down would be inter- and intra-company services, with e-mail riding on leased lines, often implemented with expensive mainframe packages such as IBM's Profs (professional office system) for VM or Disoss (Distributed Office Systems Services) for MVS, or ADR/Mail or Memo from the Volvo/Ericsson Verimation joint venture.

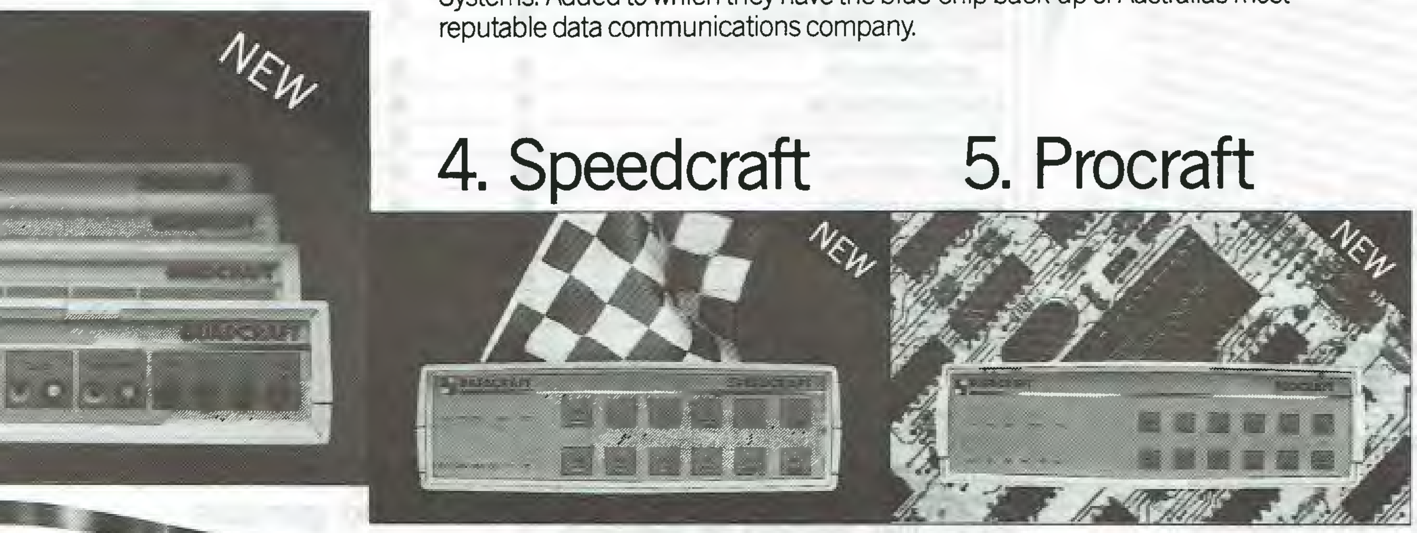
(Continued page 18)

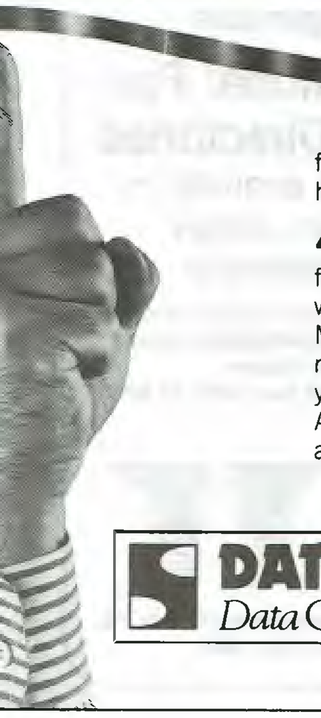
ed the craft of
uality modem.

aft $959*

Specified and designed to suit exacting Australian and world-wide standards, the new range was produced in conjunction with world-renowned Concord Data Systems. Added to which they have the blue-chip back-up of Australia's most reputable data communications company.

4. Speedcraft 5. Procraft





frequently exchanges information and data with head office. 2400 bps.

4.Speedcraft Remarkable performance for price: a 4800 bps full duplex modem, with error correction reliability. Which means it's fast. Makes short work of big file transfers like stock reports or hefty documents, with the kind of speed you would only expect to achieve on a leased line. A quad dial-up modem, Speedcraft can call, answer, and select speed, all automatically.

5. Procraft Here's the real professional model: ultra-fast at 9600 bps, for heavy duty work like the daily transfer of bank transactions, large data files or computer graphics. Uses world-acclaimed V.32 Trellis Coded Modulation techniques to enhance transmission. For every conceivable feature, there isn't a dial-up modem to touch this new Procraft. Call Datacraft for brochures detailing the many features of these top-quality modems. Datacraft, or our nearest dealer, will turn choosing a modem from guesswork – into a craft.

*RRP inc. tax. Includes error correction.

DATACRAFT
Data Communication

The leading data communications company is Australian.

DC644/BEATTY

E-mail's getting there, slowly

(Continued from page 17)

Here the great divide of incompatible communications architectures looms most threateningly, but specialists such as Soft-Switch and others have begun dozing reasonably well-graded access pathways from one side to another.

The need for such levelling of "Protocol Peak" has not escaped the entrenched computer makers: only recently did DEC boost its e-mail capability by adding a gateway that lets users exchange messages with Profs users to its Mailbus family of programs.

DEC already had a Disoss e-mail link running over its Decnet/SNA Gateway, as well as links to MCI Mail and X.400 networks. The new Vax Message Router/P Gateway lets users on either end stick to their existing interfaces, without the need to learn new commands — apart from the intended recipient's e-mail "name".

On the last level (discounting videotex-based e-mail and the multitude of obscure-to-useful bulletin board services) are the e-mail mail facilities that come with local — and wide-area networking systems from the likes of Novell, Ungermann-Bass and 3Com.

Microsoft, too, has announced a two-pronged approach for delivering e-mail under its OS/2 operating system. The two prongs will be a Lan Manager-based "backbone" as the delivery mechanism and an actual e-mail application.

The Lan programs are complemented by specialised e-mail software that Infoworld categorises as "super Lan communications programs" (see table).

According to a recent Infoworld product comparison, such packages act as intelligent network interfaces for all users on the Lan. Don Crabb explains: "They provide certain schemes to catalogue and locate network files and thus make the use of shared files much more transparent than is otherwise possible. Some also provide traditional time-management and personal productivity tools (desktop accessories such as calendars, appointment schedulers, notepads and calculators) that can be shared over the network. Each of these programs also provides some form of e-mail functions or transparent access to other e-mail programs."

Crabb listed in this category Lan-Scape from NCompass Software, Command Performance from Spectre Software, The Coordinator from Action Technologies and Higgins from Conetic Systems.

I put a "sunset demo" version of Higgins (distributed in Australia by Charismatek of Melbourne) through its paces just before deadline time, simulating e-mail exchanges on a standalone machine, and at first look I like it a lot. So apparently did a number of clients that include the ANZ Bank, accountancy firm Bourne Griffith, Esanda Finance, Carlton United Breweries, the State Bank of Victoria and the Victorian Police Department. Some 40 other organisations are evaluating it, according to Charismatek MD Eric Sloane.

The program, billed as "group productivity software", is built around a relational database that among other things makes sorting through your correspondence easier. It also lets users send "enclosures" with their e-mail messages that can consist of spreadsheets or lengthy documents plucked from the user's disk.

Higgins also has all the useful desk accessories, including a telephone dialler (which like most US dialling programs needs some fiddling before it will jump neatly through our STD and ISD code hoops).

Users can buy the Mail Only module for $A1650 per server (for up to 20 concurrent users, depending on the hardware), spend $A3670 for the full Higgins software on the same configuration, pay an extra $A2145 for unlimited users or get acquainted with the program through the $A650 "standalone" version which serves a work group of up to five users.

An e-mail management program called Higgins Exchange ($A4060 per server, plus a few hundred dollars for each of the available interfaces to different vendors' Lan e-mail systems) connects different file servers, organises users into groups and departments and serves as a gateway to remote PCs or Lans.

E-MAIL FOR PC LANS • FEATURES CHART

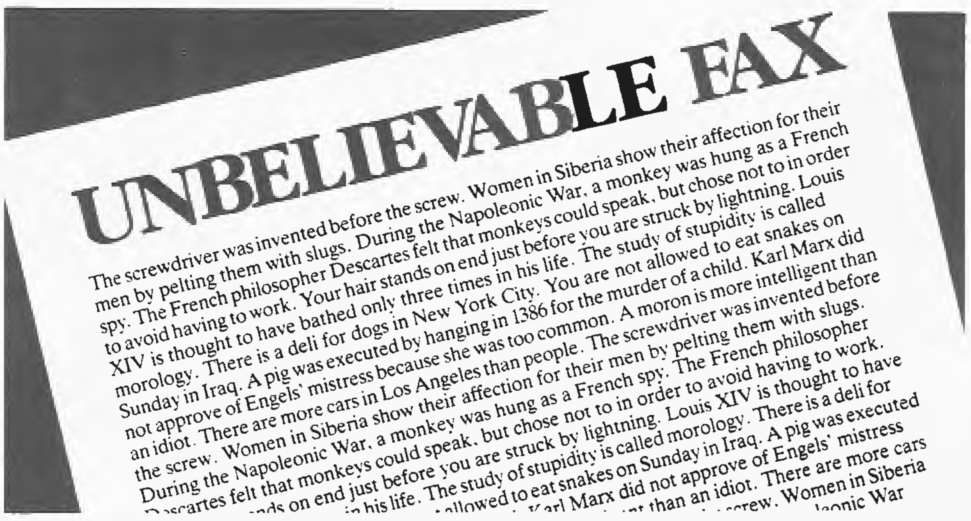
	CC Mail	Da Vinci E-Mail	Inbox/PC	Network Courier
Memory-resident	■[1]	☐	■	■
Attach other files to messages	■	■	■	■
Reply	■	■	■	■
Forward	■	■	■	■
R.S.V.P.	■	☐	■	■
MS Windows 2.0 compatible	☐	■	☐	■[3]
MS Windows/386 compatible	☐	☐	☐	■[3]
Send/receive graphics in message	■[4]	☐	☐	☐
Built-in editor	■	■	■	■
Carbon copies	■	■	■	■
Blind copies	☐	☐	■[5]	☐
System-wide mail	■	■	■	■
File/message encryption				
Automatic	■	☐	■	■
Manual	☐	■	☐	☐
Message searching	■	■	■[6]	■
Distribution (routing) lists	■	■	■	■
Immediate pending message notification	■	■	■	■[7]
Unattended mail	■	■	■	■
Passwords	■	■	■	■
Message lists with headers (mailbox features)	■	■	■	■
Message database features	■	■	Limited	■
Online help	■	■	☐	■
Hot keys for quick access	■	■	■	■
Multi-user workstation capability on single node	■	■	■	■
User customisable	■	■	Unlimited	■
Private/local mailboxes	■	■	■	■
Public mailboxes	■	■[8]	■	■
Message printing	■	■	■	■
File sharing with other Dos applicatons	■[9]	■[10]	■	■
Bulletin board	■	☐	■	☐
External dial-up capability	■	☐	☐	■
External network mail capability	■	☐	☐	■

[1] For message monitoring. Other parts of system load and execute normally. [2] For monitoring incoming mail and some messaging functions; but other parts of system load normally for execution. [3] With Windows version. [4] Includes built-in graphics editor. [5] Requires editing TO: list. [6] Manual list scrolling. [7] Using Mail Monitor utility. [8] Not documented. [9] Requires option for full import/export between Dos files and the CC Mail post office. The option also imports and exports the CC Mail directory. [10] Through Windows.

Chart courtesy of Infoworld.

Private networks

Next month *Communications World's* Core Report will look at the state of play in private networks and X.25 PADs. Editorial submissions are welcome. Deadline for submission is March 20. For further information please ring the editor, Luis Huesch, on (02) 439 5133 or (02) 960 3710.



UNBELIEVABLE FAX

The screwdriver was invented before the screw. Women in Siberia show their affection for their men by pelting them with slugs. During the Napoleonic War, a monkey was hung as a French spy. The French philosopher Descartes felt that monkeys could speak, but chose not to in order to avoid having to work. Your hair stands on end just before you are struck by lightning. Louis XIV is thought to have bathed only three times in his life. The study of stupidity is called morology. There is a deli for dogs in New York City. You are not allowed to eat snakes on Sunday in Iraq. A pig was executed by hanging in 1386 for the murder of a child. Karl Marx did not approve of Engels' mistress because she was too common. A moron is more intelligent than an idiot. There are more cars in Los Angeles than people. The screwdriver was invented before the screw. Women in Siberia show their affection for their men by pelting them with slugs. During the Napoleonic War, a monkey was hung as a French spy. The French philosopher Descartes felt that monkeys could speak, but chose not to in order to avoid having to work.

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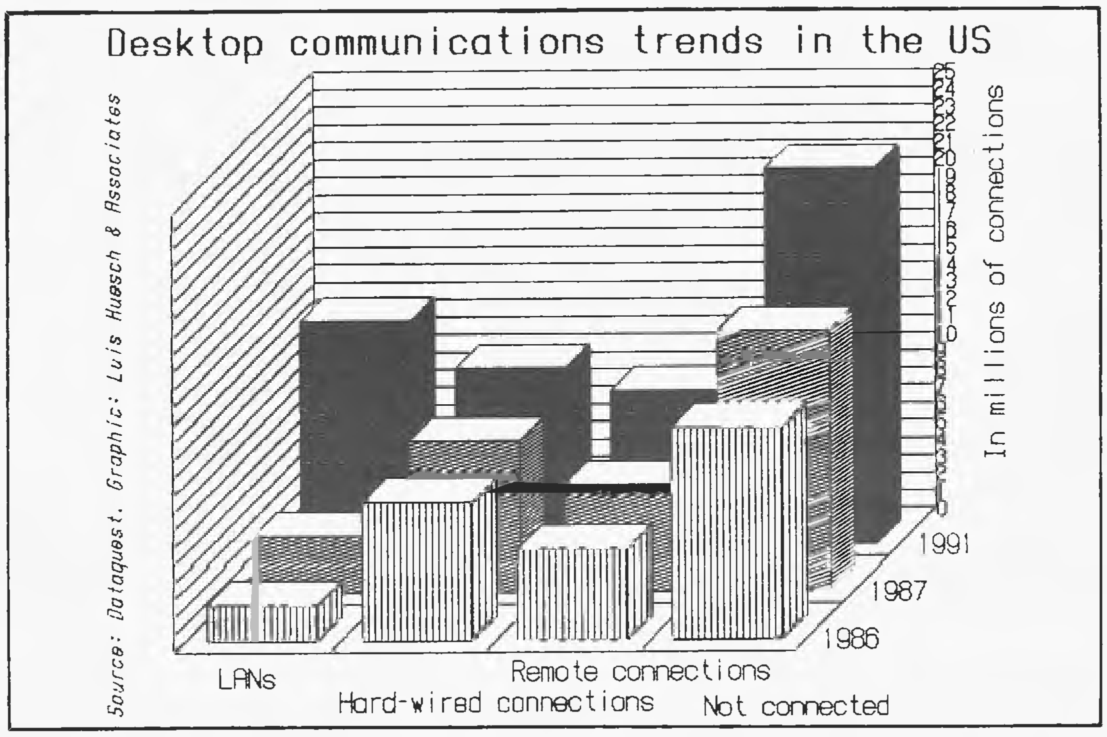
File exchange saves dollars

By Don Crabb

FOR some installations, even a simple e-mail program like Inbox/PC may be overkill. Many times, all you need in the way of network communication is to exchange files between a couple of PCs that are physically distant. You could use the external remote e-mail capabilities of programs such as Network Courier or CC Mail, or a third-party e-mail service such as Keylink.

However, if all you want to do is exchange files, paying for all the features of Network Courier or CC Mail is not the best use of your software budget, and using Keylink can be expensive.

This is where Xchange — one alternative to e-mail — can help. A product of Nochange Software (540 Silver Pine Trail, Roswell, GA 30076), Xchange is a program that automatically transfers files between two or more PCs anywhere in the world. It costs only $US149.95 (discounts for volume purchases are available) per PC.



Source: Dataquest. Graphic: Luis Huesch & Associates

It runs on PCs with at least 256K of Ram and only one disk drive, using PC-Dos 2.0 or later. You will also need a Hayes-compatible modem on each PC and access to the local telephone system.

Xchange does its file transfers totally unattended. All the user has to do is make sure that the computers being used are turned on and running the program. Xchange uses proprietary block transmission protocols to ensure file integrity. In order to reduce long-distance charges, Xchange compresses files before transmitting them. The program can also encrypt files in order to prevent sensitive information from being used by unauthorised persons.

> ‘It does what it says it will do, and does it reliably’

Xchange works with all kinds of files: text, spreadsheet, database, word processing, binary, and others. In our limited tests of Xchange, we found no problems transferring any of these types of files. Xchange also supports Dos wild cards in file names.

This means you can have the program search through directories and find exactly the files that need to be sent. For example, you could have it transfer only those files that have been updated since their last transfer date — a procedure that makes Xchange a low-cost communication system for branch offices that run the same software and need to have the same data.

You can also have Xchange remotely execute Dos commands, as long as the commands do not require operator intervention on the remote PC.

Xchange supports data transmission rates from 300 to 34,600 bit/sec, and it provides its own error detection and correction. It does not support the MNP (Microcom Network Protocol), but it can work with other telecommunications software and file transfer protocols (such as Kermit). You can also have Xchange contact other PCs that are not running Xchange themselves.

Even though Xchange is inexpensive, it still comes with a 30-day money-back guarantee. We were impressed with Xchange: It does what it says it will do, and it does that reliably. Even better, it will not cost you a bundle. All in all, Xchange is well worth considering if your communication needs are primarily for remote file sharing among PCs.

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Hassles over venue and date end in a bigger show

PC88, Communications 88 and Office Technology 88 will be held at the Darling Harbor Exhibition Centre from Sunday March 20 to Wednesday March 23. Apart from the Wednesday, when the show closes at 5pm, hours are from 10 am till 7 pm. Visitors under 18 will not be admitted unless accompanied by an adult.

Car parking at Darling Harbor is available in the northern car park next to the Convention centre and there will be additional parking at the Entertainment Centre.

Tytel's LANX mini-PABX combines a handset with an operator console to make up a compact high-traffic system

By Terry Watson

THERE is always a temptation for exhibition organisers and writers to talk about the merits of exhibitions in terms of overcoming difficult logistics, the efficiency of administration, the number of visitors, space sold and other items, rather than the concerns of visitors. However, the change of venue for Communications 88 from Sydney's Centrepoint complex to Darling Harbor, necessitates a brief explanation.

Late last year a cloud was thrown over the staging of PC 88 and the related Communications show when it became obvious that the proposed Darling Harbor venue in Sydney would not be open in time to meet the scheduled dates in February, and it was necessary to transfer to March 20-23.

Perhaps the most revealing strength of these shows is their ability to survive the data change. At a time when the viability of computer shows in general is being questioned, and despite the problems encountered by exhibitors in rescheduling promotions, all the space has been filled and there appears to be considerable visitor interest.

Certainly the departure from Centrepoint will not be missed, nor will the complaints of overcrowding, sore feet and lack of airconditioning.

Because of the extra space available, the Communications and Office Technology shows, previously held only in Melbourne in association with the PC show, are coming to Sydney for the first time. Last year the combined exhibitions in Melbourne attracted more than 38,000 people. The organisers expect this figure to be exceeded in Sydney.

Now to the show itself. Communications has been called by some the "sleeper" of the computer industry in this country, although the past year has seen remarkable advances. These will be clear in many of the displays at Communications 88.

An interesting presentation will come from British Aerospace. One of the largest suppliers of communications satellites in the world, it will be discussing satellites for communications, TV distribution and mobile telecommunications, and transportable earth stations.

THE AUSTRALIAN INTERNATIONAL ELECTRONIC
COMMUNICATIONS
AND INFORMATION TECHNOLOGY EXHIBITION
COMMUNICATIONS 88
DARLING HARBOUR SYDNEY
20-23 MARCH 1988

Also from the UK, the British Overseas Board is sponsoring a number of companies. That display will include wide area paging equipment, RF connectors, cable fitting tools and computer installation materials, and digital and statistical multiplexers.

On the Australian front, a large number of manufacturers and distributors will put their best feet forward. Allan Electronics will demonstrate its TAS telephoning monitoring system. Developed in Western Australia, it connects to the telephone network to record information about an organisation's use of phones. The package is claimed to help with budget projections, peak load usage, and direct billing of telephone time to clients.

Other Australian items to be seen include modems, networking products, and many locally designed and built communications tools, including the first official showing of Tytel's innovative LANX intelligent handset mini PABX.

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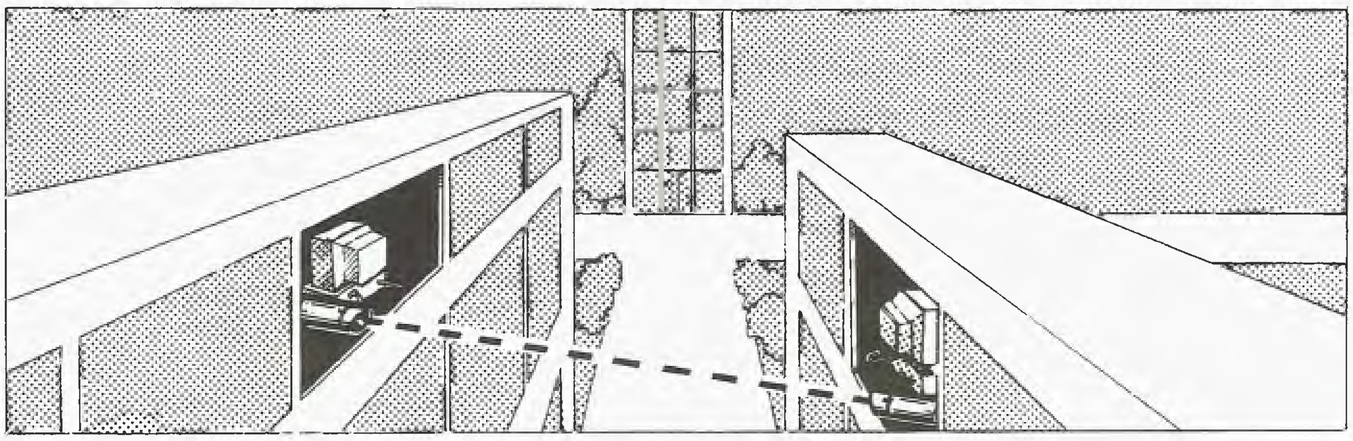

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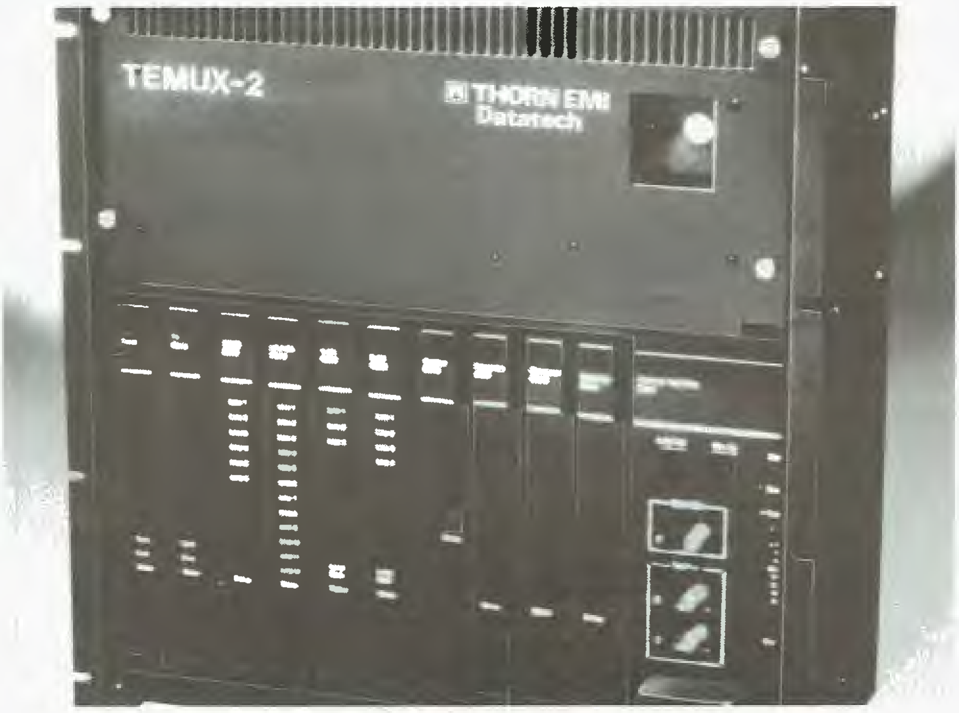
Dealer enquiries welcome.

The British are coming...

DIGITAL and statistical multiplexers and a bandwidth manager, wide area paging equipment and RF connectors, cable fitting tools and computer installation materials will feature among the exhibits of the UK companies taking part in Communications 88. They will be shown in a joint venture presentation organised by The Electronic Engineering Association in co-operation with the British Overseas Trade Board. The association will mount an information stand where any enquiries about the industry or the exhibits may be directed.



Among the products to be displayed at PC88 will be Thorn-EMI's products Telan and Temux, launched recently in the UK and new to the Australian market. Temux is a new multiplexer range and Telan is a network product.

The Temux 1 is a 64K-bit digital multiplexer and is available as a standalone desktop unit or high-density rack-mounted model. The MX 6408 is a desktop model which can interface up to eight terminals via low speed V.24/V.28 synchronous or asynchronous data channels. It is also available with 16 low-speed channels. Both are software configurable with multi-level password protection, have menu-driven, user-friendly supervisory port, and extensive diagnostic facilities. They can store up to four databases and can switch automatically to different ones at a predetermined time.

This facility is said to be ideal for applications such as banking and other financial areas, which often switch from interactive processing during the day to batch processing at night. An optional voice channel is available.

Temux 2 is a powerful 2M-byte low-cost bandwidth manager, which can provide corporations with flexible yet advanced control of shared voice and data transmission on integrated digital networks. It permits direct connection to standard channel interfaces, and can be configured to perform a wide range of roles including those of a primary rate multiplexer, a drop, insert and bypass multiplexer, an urban campus distribution system and a Cept/T1 conversion point.

Ordinary cable

Telan is a low-cost local area network (Lan) for up to 63 users, and is said to meet the requirements of most PC network users at a fraction of the cost of other products available. It is designed for use with the IBM PC XT AT range of computers and true compatibles. Ordinary telephone cable is used for the connections.

Paging Systems Ltd will be promoting its range of systems products, including the Messenger 64 software suite. Designed to provide a complete range of digital paging, message handling services and business software, it is intended for use on DEC PDP/11 minicomputers. These packages allow users to establish their own tailor-made radiopaging system supporting up to 64 operator terminals.

Also being exhibited will be an ultra-high stability VHF digital FSK transmitter along with associated transmission products including Pocsag encoders, zone controllers, transmitter site interface equipment and receiver test facilities.

A telephone network/radiopaging system interface, which connects the public switched telephone network with the paging central system, will be shown. This offers a variety of interface levels, including Direct Dial (DDI).

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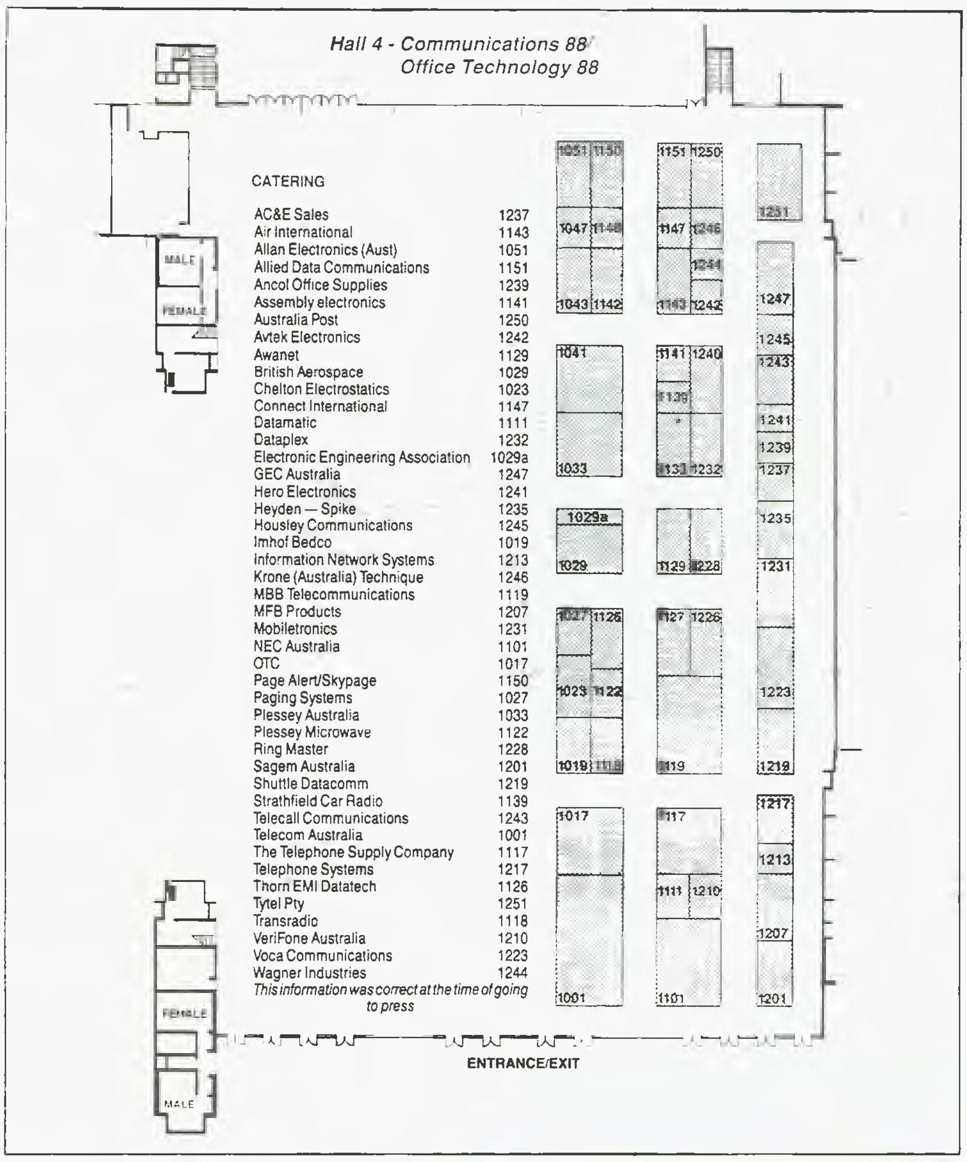

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This information was correct at the time of going to press

COMMUNICATIONS 88 SHOW CASE

A C & SALES PTY LTD *Stand 1237*

CONNECTORS, adapters, specially designed patch panels and patchcards are the speciality here. In addition, a general range of components required by the data communications industry is available.
A C & E Sales Pty Ltd, 9 Hill St, Leichhardt, NSW 2040. Tel: (02) 660 5077.

AIR INTERNATIONAL PTY LTD *Stand 1142*

MANUFACTURER and distributor of the Novotel range of cellular telephones. Communications 88 will be the first showing of the company's pocket size release. The concept of a mobile office on wheels will be highlighted, with a demonstration of facsimile and PC interface capabilities through Novatel cellular products.
Air International Pty Ltd, 437 Williamstown Rd, Port Melbourne, Vic 3207. Tel: (03) 645 1666.

ALLAN ELECTRONICS (AUST) PTY LTD *Stand 1051*

TAS is a telephone monitoring system that connects to the telephone network to record information about an organisation's use of the telephone. Developed in Western Australia, it is priced at around $A5000 plus tax and is a computer software system that monitors PABX systems. Any exceptional usage may be identified and traced to departments, sections, locations or even to individual extensions. TAS will assist with budget projection, peak load usage adjustment and direct billing of telephone time to clients at a varied rate per minute or per pulse.
Allan Electronics (Aust) Pty Ltd, 100 Concord Rd, North Strathfield, NSW 2137. Tel: (02) 764 1488.

ALLIED DATA COMMUNICATIONS *Stand 1151*

ALLIED data communications is affiliated with the US Allied Data Communications Group Inc, claimed to be the largest networking group in US. Networking products will be offered including Lanex, bus interface units and Ccor hardware.
Allied Data Communications, 781 Pacific Highway, Chatswood, NSW, 2067. Tel: (02) 411 6535.

ANCOL OFFICE SUPPLIES AND BUSINESS EQUIPMENT PTY LTD *Stand 1239*

THE Phonefax, a facsimile machine with an internal telephone will be on display. In a compact desktop package, it combines a high quality executive telephone with a full feature 63/62 facsimile machine. It is designed for the desktop and personal user and is suitable for use in premises where there is only one incoming telephone line. An RS 232 interface option is available to enable computer control.
Ancol Office Supplies and Office Equipment, 169 Bonds Rd, Punchbowl, NSW 2196. Tel: (02) 533 2233.

ASSEMBLY ELECTRONICS *Stand 1141*

ASSEMBLY ELECTRONICS manufactures supplies and instals data cabling and switching systems for the computer, communication, telephone and industrial control industries. It will show its range of cable, interface equipment, computer ports, wallplates, patch panels and switching devices, modems, multiplexers and cabinetry. The company is one of the few authorised IBM cabling system consultants, suppliers and installers.
Assembly Electronics, 383 Malvern Rd, Sth Yarra, Vic 3141. Tel: (03) 241 8192.

(Continued page 23)

STATISTICAL & SWITCHING MULTIPLEXERS, LOCAL & REMOTE SERVERS X.25 PADS

ComDesign

ComDesign's range includes networking products for interconnecting local and wide area networks into a single cohesive system.

Features such as multi-protocol support, high speed channel and link capacity, combined with superior diagnostics and monitoring capabilities put ComDesign multiplexers at the forefront of the data communications market.

With the FutureCom series, increased user demand, additional new equipment, or geographical decentralization is easy to accommodate. Advanced modular product design enables software enhancements and hardware options, such as additional channel and link capacity to be added in the field.

ComDesign also provide Ethernet compatible LAN Servers for DEC and other mini computer systems.

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MULTIPLEXING SOLUTIONS FOR THE 3270 LOCAL ENVIRONMENT

ADACOM

Adacom provides comprehensive multiplexing and terminal distribution solutions for installations of IBM 3270 coax terminals distributed throughout several building complexes in a 4.5km (3 mile) radius of the computer centre.

The CM-2132 and CM-4901 provide main cabling solutions. The CM-299 Series offers 8-port multiplexing solutions. The LN-200 Series offers 3270 multi-dropped bus capabilities and address bidding technology for the attachment of more 3270 devices than available controller ports.

Address bidding is an ideal solution for occasional users needing to access the IBM 3274 controllers for file transfers and other micro-to-mainframe operations.

PC's which do not need their own dedicated controller port can access the 3274 controllers via dial up modems.

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MicroFrame

DataLock & Key is a system designed to provide the highest possible level of access protection to dial-in (or leased) computer lines, economically, and without any mainframe or user overhead.

The DataLock & Key system is 100% compatible with all RS-232 devices. Installation is quick and easy – a DataLock or Key simply plugs into the RS-232 line between the computer equipment and modems.

The system operates with all protocols and senses the operating parameters of the line, configuring itself automatically.

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COMPLETE SOLUTIONS
★ DATA PRODUCTS
V32 MODEMS
V22 bis MODEMS DM 2422
HIGH DENSITY MODEMS
DM 1212, DM 309
DSU (DIAL BACK-SECURITY UNITS)
★ SUPERVISORY AND REMOTE CONTROL

(Continued from page 22)

AUSTRALIA POST ***Stand 1250***

AUSTRALIA Post operates over 500 Electronic Postal Centres around Australia and its facsimile service is interlinked to more than 50 countries. The electronic mail display will feature Intelpost and E-Post services.

Intelpost is a public facsimile service offering a two hour delivery service with Australia Post Express Courier to most areas. For a business without a facsimile unit, Australia Post offers a registered user scheme that allows the business to quote the number of nearest post office facsimile on its stationary and business cards. E-Post, a computer based text messaging service consisting of lettergram and bulletin services will also be on display.

Australia Post, GPO, Sydney 2000. Tel: (02) 230 7893.

Phonefax — combined telephone, fax machine and copier

AVTEK ELECTRONICS ***Stand 1242***

ON show will be Avtek's Minimodem II, two external modems released in December — Megamodem 12 and Megamodem 123 — and the company will be releasing two new internal modems, the Megamodem 12 (Internal) and the Megamodem 123 (Internal).

Avtek Electronics, 86-88 Longueville Rd, Lane Cove, NSW 2066. Tel: (02) 427 2177.

AWANET PTY LTD ***Stand 1129***

AWANET is a supplier of networking products and multi-user microcomputer solutions to small and medium size companies. On display will be the company's Network OS software package and PC11 add-on cards. It will demonstrate how a network of IBM (PC AT compatible 286 and 386 machines incorporating these products may be bridged to an IBM XT comparible network running under Ethernet. New products to be released at the show will include special videocards, gateway products in multiple session, 3270 emulation cards for networks and extended memory cards.

Awanet Pty Ltd, Level 2, 15 Boundary St, Rushcutters Bay, NSW 2011. Tel: (02) 360 2822.

BRITISH AEROSPACE ***Stand 1029***

THE company is one of the largest suppliers of communications satellites in the world and will be discussing communications satellites for telecommunications, TV distribution and direct broadcast, specialised business services, mobile telecommunications and transportable earth stations. A highlight on the stand will be Eurostar, a three axis stabilised satellite platform which is proposed for the Aussat B mission. On display will be a one-sixth scale exploded model of Eurostar and explanatory graphics outlining the benefits to Australia of such a system.

British Aerospace, Space and Communications Division, Argyle Way, Stevenage, Herts, SG1 2AS, UK. Tel: 0438 313 456.

BRITISH OVERSEAS TRADE BOARD ***Stand 1118***

THIS is a group exhibit by various British companies. The display will include wide area paging equipment and RF connectors, cable fitting tools and computer installation materials, digital and statistical multiplexers and a bandwidth manager. Among companies represented will be Thorn EMI Datatech Ltd, Paging Systems Ltd and Transradio Ltd. Representatives from the Electronic Engineering Association will also attend.

British Overseas Trade Board, Dean Bradley House, 52 Horseferry Rd, London, SW1P 2AG, UK. Tel: 01 212 0397.

CHELTON ELECTROSTATICS ***Stand 1023***

PRODUCTS here include antennae designed for communications, navigation EW and ECCM frequencies for both fixed wing and rotary wing aircraft operating up to mach 3. There will be conformal homing and communication antennaes currently proposed for EH 101 aircraft which interface with the Chelton 730 series digital memory sonobuoy locating receiver. Solutions to homing, communications and static problems will also be available.

Chelton Electrostatics, Fieldhouse Lane, Marlow, Bucks, UK. Tel: UK 06284 72 072.

The Avtek Megamodem 123, to be released at the show

CONNECT INTERNATIONAL PTY LTD ***Stand 1147***

A speech recognition system, call processing and an automatic speech exchange network are featured. Transaction Processing is a PC based product providing telephone line dial up access to host computer systems. Incoming calls are automatically answered by the system and a message played to the caller. A series of prompts are then played and the caller's response is recorded. At the completion of the prompts, a goodbye message is played and the call is terminated.

Connect International Pty Ltd, 203/107 Walker St, North Sydney, NSW 2059. Tel: (02) 957 9569.

DATAMATIC PTY LTD ***Stand 1111***

THE company will show a comprehensive range of networking equipment including wide band for voice data and video transmission. Wide area equipment with connectivity including X.25, SNA, BSC, DDCMP, Ethernet, Asynch and fully resilient fibre optic extended distance local area network will be seen. A large range of test equipment and protocol analysers will be the shelves.

Datamatic Pty Ltd, 9 Byfield St, North Ryde, NSW 2113. Tel: (02) 888 1788.

DATAPLEX PTY LTD ***Stand 232***

DATAPLEX designs, manufactures and distributes local area distribution products including modems, multiplexers, free space optical data links, modem eliminators, data switches, async to sync converters, digital data splitters and coaxial switching systems. A full range of these will be on display alongside overseas equipment which includes Comdesign networking multiplexers, X.25 pads, IBM 3270 coaxial distribution access products and Microframe access security devices. Dataplex provides network design, installation and maintenance services as well as custom products development.

Dataplex Pty Ltd, 7-9 John St, Lilydale, Vic 3140. Tel: (03) 735 3333.

ELECTRONIC ENGINEERING ASSOCIATION ***Stand 1019***

THE Electronic Engineering Association is part of the British Group and is an industry body that represents the interests of most of the major British electronics manufacturers. It supports and sponsors major trade exhibitions worldwide and staff will be on hand to answer any general or commercial enquiries on the subject of British electronics.

Electronic Engineering Association, Leicester House, 8 Leicester St, London, WC2H 7BN, UK.

(Continued page 24)

THE MODEM THAT FITS IN THE PALM OF YOUR HAND FOR LESS THAN A FISTFULL OF DOLLARS!

The new Megamodem features a full Hayes "AT" command set, and all the major data standards such as 1200/1200, 300/300 and optional 1200/75 (Viatel) baud rates. It has the ability to auto dial, auto answer and auto disconnect.

The Megamodem is a total solution for your communications problem. It can be connected to virtually any PC available on the market today.

Why pay $700+ for a comparable modem when the Megamodem 12 is only $375 inc tax and the Megamodem 123 with the 1200/75 option is only $449 inc tax. Both of these are also available as internal modems for IBM PC's and compatibles.

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(Continued from page 23)

GEC AUSTRALIA LTD *Stand 1247*

VIDEOCONFERENCING. data products, videotex and its Train Speed Indication system will be featured. The Train Speed Indication System is a supervisory and remote control system developed for BHP and has export possibilities. It transmits the speed needs for a series of 84 train trucks loading and unloading bulk materials. The train driver simply has to keep the train moving at the desired speed shown on a display similar to a video game.
GEC Australia limited, 5-7 Slough Ave, Silverwater, NSW 2141. Tel: (02) 647 2455.

HERO ELECTRONICS PTY LTD *Stand 1241*

MANUFACTURER of telephone call accounting systems, hotel accommodation computers, fire evacuation and security alarm systems. The company also distributes Trilogue voice mailing systems. The Trilogue system incorporates networking, dialogue operation, facsimile storage and forwarding with a voice message tag and paging.
Hero Electronics Pty Ltd, 2 Vautier Street, Elwood, Vic 3184. Tel: (03) 531 9531.

HEYDEN-SPIKE LIMITED *Stand 1235*

MANUFACTURER and distributor of wide range of communications and electronic products. Included is the Shinwa two way portable radio transceiver and the Tele Mobile range of portable communications equipment. Is also has a radio mobile data system which provides a blending of communications equipment with computers providing the user with the ability to access the computer or central system from a vehicle.
Heyden-Spike Limited, Unit 1, 91-93 Old Pitwater Rd, Brookvale, NSW 2100. Tel: (02) 938 1566.

HOUSLEY COMMUNICATION CONSULTANTS PTY LTD *Stand 1245*

THE company provides an independent telecommunications consultancy education and research services throughout Australia and overseas, and offers advice in the solving of communication problems.
Housley Communication Consultants Pty Ltd, 17-23 Merriwa St, Gordon, NSW 2072. Tel: (02) 498 7877.

IMHOF-BEDCO TSD PRODUCTS LTD *Stand 1019*

PART of the British Group, the display will include what is claimed to be the world's first subrack system to give mean attentuation levels in excess of 60dB in the range of 10KHz to 1GHz. Full screening is achieved by the use of copper beryllium 'fingers' fixed to a front panel extrusion which ensures total panel to panel contact. It fully conforms to IEC 297/3, RFI specification BS6527, the EEC Mandatory Euro Directive EN-55-022. A selection from the company;s range of enclosures and other electronic packaging lines wil be there.
Imhof-Bedco Tsd Products Ltd, Ashley Rd, Uxbridge, Middx, UB8 28Q, UK. Tel: UK 0895 87 123.

INFORMATION NETWORK SYSTEMS *Stand 1213*

SEVERAL new products including a PC based portable protocol analyser from Progressive Computing, a standards based Lan analyser with token ring, Ethernet and Arcnet capabilities from Network General Corp will be shown. SDC Data Switch, a multivendor, local and wide area network system has now been enhanced with features including a security management options. It is capable of connecting from six ports to 3072 ports to meet needs from simple port connection to worldwide networking. It will be seen at the show.
Information Network Systems, 7th Floor, 10 Help St, Chatswood, NSW 2067. Tel: (02) 411 3268.

KRONE (AUST) TECHNIQUE PTY LTD *Stand 1246*

KRONELINE TMS 200 is a combination of telephone and computer. It uses the computer as a storage unit for telephone numbers and other related information. It calls the number from the computer and allows the operator to accept and store information during the call. The company will also display the LSA-Plus Insulation Displacement Termination System — a quick connect system; as well as Information system 8200 — an indicator system utilising electromechanical indicator units with video monitors, and the Information System 8700, a 71 segment matrix liquid crystal display. Other products include the PSI Lightlinker fibre splice system, Sankosha over voltage protection units and Dicon fibre optic switch.
Krone (Aust) Technique Pty Ltd, 2 Hereford St, Berkeley Vale, NSW 259. Tel: (02) 884 422.

The Velex personal computer interface from SAGEM

MBB TELECOMMUNICATIONS *Stand 1119*

MBB will demonstrate videoconferencing using Videocom, a satellite based office communications system. The modular designed Videocom workplace may be installed in many different customised variations and the mobile workplace is simple to transport and instal. Comlink and Comlinksolar Vsat terminals for business data dissemination via satellite will also be seen in operation.
MBB Telecommunications, PO Box 80 11 68, D8000 Munich 80, West Germany. Tel: (089) 6000 9522.

MFB PRODUCTS *Stand 1207*

THE company's Australian Design Award winning 19 inch rack cabinets along with two new products, Eurocard Sub-racks and Custom Built Consoles will provide the focus here. The company claims that these products alongside the existing range provide a complete range of network suited to the electronic and communications industries.
MFB Products, 36 Holloway Drive, Bayswater, Vic 3153. Tel: (03) 762 7177.

MOBILTRONICS HOLDINGS PTY LTD *Stand 1231*

COMMUNICATIONS '88 will see demonstrations of Pocketphone, a product that Mobiltronics claims to be the smallest, lightest and most advanced cellular telephone in existence. It weighs 530 grams and fits snugly into a jacket pocket. The Pocketphone may be used as a car phone and needs no outside aerial. By attaching a microphone and small speaker to the dashboard it may be used while driving. Recharging is via household supply or the cigarette lighter point in a car.
Mobiltronics Holdings Pty Ltd, 449 Punt Rd, Richmond, Vic 3121. Tel: (03) 857 8148.

NEC *Stand 1101*

A NEW pocket-sized mobile telephone, the cellular NECCEL 9B, will be shown. It is claimed it can be carried in a briefcase, handbag or pocket, or car mounted as a full-powered vehicle telephone. It can receive calls with the aerial up or retracted and uses its own inbuilt power source. Other NEC products on show will include the NEC facsimile range and the NEC radio pagers.
NEC Australia Pty Ltd, 11 Queens Rd, Melbourne 3004. Tel: (03) 267 6355

OVERSEAS TELECOMMUNICATIONS COMMISSION *Stand 1017*

DATA Access and Keylink constitute the main demonstrations here. Data Acess enables users to gain access to the world's major databases while Keylink is OTC's and Telecom's national/international electronic messaging service. Keylink has been enhanced to provide PC users with a range of value added features. At the stand information will be available on video conferencing, Satnet — a small dish satellite service suitable for linking a number of people in remote locations — and OTC Skystream, which employs the latest technology to provide a range of business data services.
Overseas Telecommunications Commission, GPO 7000, Sydney, NSW 2001. Tel: (02) 287 4559.

PAGING SYSTEMS *Stand 1122*

PART of the British Group, the company designs, manufactures and distributes complete digital wide area paging systems. This is the first time the equipment will be seen in this country. The components include: Messenger 64, a suite of software packages designed for DEC PDP-11 series of minicomputers; an ultra-high stability VHF digital FSK radio paging transmitter designed for quasi-synchronous operation and featuring a fully synthesised exciter; a telephone network radio paging interface which interconnects the public-switched telephone network with the paging central system while offering a variety of interface levels; and associated transmission products including Pocsag encoder, zone controller and transmitter site interface unit.
Paging Systems, Marsh House, 500 Montague Rd, London, N9 OUR UK. Tel: UK 01 807 3010.

PLESSEY AUSTRALIA PTY LTD *Stand 1033*

PABX equipment for small and large companies will be on show. The ISDX digital exchange range of systems which incorporate full compatibility with public and private ISDN as well as feature networks and services is available. Other items include a range of portable, rack mountable VHF and UHF mobile radio equipment for field communications and desk station transceivers, mobile data terminals and digital microwave radio communications systems for voice and data.
Plessey Australia Pty Ltd, Office Systems Division, Faraday Park, Railway Rd, Meadowbank, NSW 2114. Tel: (02) 807 0400.

PLESSEY MICROWAVE *Stand 1122*

PART of the British Group, the company supplies filters for all radio and television applications, including cable and satellite, cellular radio and professional broadcasting and all major world standards. Plessey Microwave offers a custom design service. In addition, a full Cad and development capability is offered for radomes using a wide range of low loss dielectric materials.
Plessey Mircowave, 1 M Claris, Woodburcote Way, Towcester, Northants, UK. Tel: UK 0327 52 828.

COMMUNICATIONS 88

RINGMASTER *Stand 1228*

RING-MASTER develops and markets telecommunications systems including loudspeaking intercom systems and digital telephone exchanges. The RingMaster systems can be extended to large internal communications systems which comprise absent staff registration and digital storage of voice and messages, paging units with text messages and one-way speech, and emergency systems with sensors for industrial surveillance or which monitor a network of car phones.
Ringmaster, PO Box 34, Korsvolt, Oslo 8, Norway. Tel: 412 186 400.

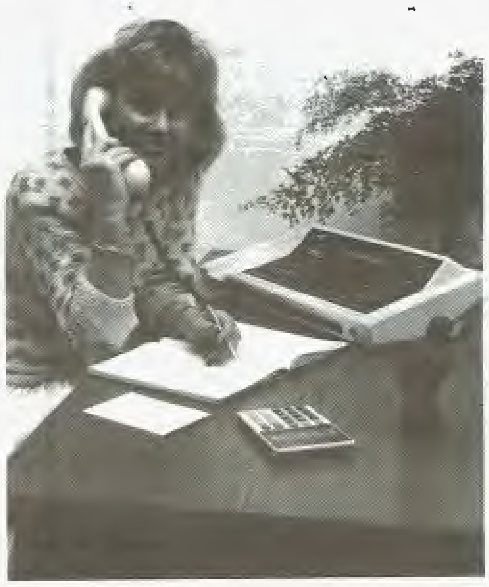
SAGEM AUSTRALIA PTY LTD *Stand 1201*

AT Communications 88, Sagem will have a comprehensive range of telex solutions to integrate business telex communications within existing computer and word processing resources. These solutions range from a straight interface device which connects directly to the telex network, to a telex workstation with communication capabilities to any computer environment.
Sagem Australia Pty Ltd, 2/122 Euston Rd, Alexandria, NSW 2015. Tel: (02) 516 5399.

SEALECTRO (BRITISH GROUP) *Stand 1118*

SEALECTRO LTD is a member of the BICC Technologies group of companies. It will show its RF connectors, microwave components and high performance cable assemblies. The microwave component range includes ferrite isolators and circulators, narrow band 4.0 - 18 GHz octave band 1-12.4 GHz. Waveguide-to-coax adaptors to 40 GHz, coaxial phase adjusters, filters to 18 GHz and special passive microwave devices. The high-performance cable assemblies include from 2-40 GHz for space, defence and instrumentation applications.
Sealectro (British Group), Portsmouth, UK. Tel: (0705) 373 221, Telex: 86 142.

(Continued page 25)



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Whether your business is large or small, whether you need to communicate across the country or across the room, Plessey has the communication system to do the job.

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- *Digital Microwave Radio systems for voice and data.*

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Sydney (02) 807 0400, Melbourne (03) 320 4333
Brisbane (07) 854 1300, Adelaide (08) 42 6241,
Canberra (062) 51 4958, Perth (09) 368 2966

PLESSEY
Connecting the future

TPB/1688

(Continued from page 24)

SHUTTLE DATACOMM PTY LTD *Stand 1219*

THE Shuttle Wiring Management system which involves twisted pair and fibre optic cabling will be demonstrated. The company will also display modems with pride of place going to the Data Race II which had an independent statistically multiplexed printer channel that supports either serial or Centronics connected printers. The CX-80 Data Exchange will also be on display, a multifunction data communications processor designed to provide users of many display terminals, teleprinters and PC's with access to a wide variety of communications facilities.
Shuttle Datacomm Pty Ltd, 46 Belvedere Rd, Seaford, Vic 3198. Tel: (03) 786 7378.

SKYPAGE *Stand 1150*

THE Sky Page national satellite network embraces all Australian capital cities and some 80 regional centres. Full information will be available.
Skypage, Box 99, Turramurra, NSW 2074. Tel: (02) 449 4133.

TELECALL COMMUNICATIONS PTY LTD *Stand 1243*

THE company is a supplier of telephones and answering equipment to the retail trade. The range includes domestic and business telephones, cordless telephones, answering machines and telephone accessories.
Telecall Communications Pty Ltd, Ground Level, 100 Harris St, Pyrmont, NSW 2009. Tel: (02) 660 1300.

COMMUNICATIONS

TELECOM AUSTRALIA *Stand 1001*

ADVANCED telephone and Commander systems. Viatel, Telecom's own videotex database facility, and mobile communications such as Explorer cellular phones and Telefinder radiopagers make up most of the display. The stand will be divided into three areas to cater for small and large businesses and mobile products.
Telecom Australia, PO Box A226, Sydney South, NSW 2000. Tel: (02) 265 1798.

TELEPHONE SYSTEMS INC *Stand 1217*

TELEPHONE Systems will display answering machines, cordless telephones and business telephones. Demonstrations of Telecom authorised Super Call Deluxe cordless telephone and Callmate cordless telephones will be available. The GTE 7305 Telephone Answer System which boasts remote control, PIN security system, remote turn on, call monitor, toll saver and message length selector plus many other features will be available. Business phones include FP60LS two line and FP4L four line systems.
Telephone Systems Inc, Suite 32, The Chelsea, 110 Sussex St, Sydney, NSW 2000. Tel: (02) 29 2221.

The TEMUX 2, a two Megabyte multiplexer for voice and data

THE TELEPHONE SUPPLY CO *Stand 1117*

THE Accent SBX telephone system from Philips is featured. The system is available in four models to cope with variable configurations of incoming lines and extensions. Other products include a range of telephones and terminal equipment such as executive multi-featured units, Callmaster replacement handsets. answering machines and cordless telephones.
The Telephone Supply Co. 190 George St, Parramatta , NSW 2150. Tel: (02) 635 6466.

THORN EMI DATATECH *Stand 1126*

FROM UK, the display will include the Temex range of digital voice and data multiplexers. It features 64K-byte of 2M-byte systems for a wide range of commercial applications. The Thorn statistical multiplexers will also be on display. They are designed to provide a cost effective method of multi channel communications over a single synchronous modem link at up to 19.2K-bit per second. At the lower end of the spectrum and being shown for the first time here is Telan, a Netbios Lan for IBM PC and true compatibles.
Thorn EMI Datatech, Spur Rd, Feltham, Middx, UK, TW14 OTD. Tel: UK 01 890 1477.

TRANSRADIO LTD *Stand 1118*

MANUFACTURERS of RF connectors, fibre optic connectors, RF cable assemblies, strip and crimp tools and a wide range of computer installation materials from the company's factory in UK. Computer installation materials and accessories for 27 specific brands of computers including Wang and IBM will also be available.
Transradio Ltd, C/O Multi Contact Aust Pty Ltd, 53 Whiting St, Artarmon, NSW 2064. Tel: (02) 438 3600.

TYTEL PTY LTD *Stand 1251*

TYTEL designs and manufactures business telephones in Australia. It will unveil the 800 series Lanx telephone system and also have the Australian award winning 700 series executive telephone on show. Tytel Lanx handsets connect to a single cable thus enabling simple installation and maintenance.
Tytel Pty Ltd, 74 Whiting St, Artarmon, NSW 2064. Tel: (02) 439 4499.

VERIPHONE-NORTH SUPPLY *Stand 1210*

A range of transaction computers will be highlighted. Also included are JR Plus and XL credit authorisation terminals, Tranz 330 - 340 terminals with bar code readers, Pin pad and printer, and Tranit 1800 network controllers. The Zon point of sale terminals which enable transactions to be downloaded each day to a mainframe will also be on display. Music on hold has come into its own over the last two years and a sophisticated system is available from Veriphone. CallMinder is fully programmable and includes tape deck and radio. It is Telecom approved.
Veriphone-North Supply, 28 Chandos St, St Leonards, NSW 2065. Tel: (02) 436 0600.

The standard LANX handset, based on the Australian design award winner TYTEL 761

VOCA COMMUNICATIONS PTY LTD *Stand 1223*

VOCA Facsimiles will be on the shelves. These include the Voca-Fax Imagemaker and the Voca-Fax 635. The Voca Boardfax and Electronic Whiteboard allows those attending lectures and conferences to receive a printed copy of lecture points as they are written. Th Voca automatic call sequencers which answer and queue telephone calls at peak times will also be available.
Voca Communications Pty Ltd, 158 Salisbury Rd, Camperdown, NSW 2050. Tel: (02) 516 3777.

WAGNER INDUSTRIES PTY LTD *Stand 1244*

THIS company makes land and marine based HF/SSB radio communications products. Over the past 18 months the company has put together a new range of products and has created two new divisions involving VHF/UHF radio communications and cellular communications. Wagner will show a full range of telephones as well as peripheral equipment such as portable facsimile machines, lap top computers, modems and voice scramblers.
Wagner Industries Pty Ltd, 48A-54 Chapel St, Marrickville, NSW 2204. Tel: (02) 519 4666.

Installing an unmanaged network today is a little like playing Russian Roulette...

Its chancy and dangerous! Without a fully managed network you are playing against the odds. You have no means of quickly responding to network problems. No means of diagnosing faults from a central control location. And therefore no means of keeping those spiralling maintenance costs under control. All this adds up to reduced up-time and disgruntled users.

A Datamatic network with its built-in management capabilities, however, changes all that. You can, from a single central office screen, monitor your entire network and log its continuing performance. What's more, when a problem occurs, your central office staff will be the first to know. You can be zeroing in on the fault without leaving your central terminal even before the complaints start coming in!

Datamatic's extensive topological graphics and sophisticated analysis systems let you identify and predict faults in your network - right to the printed card level! Your Datamatic network will probably be back on the air in minutes rather than hours, or days, as would be the case with an unmanaged network.

A managed network supplied by Datamatic will pay for itself many times over in return on investment, in higher up-time and in happy users.

So if you're installing a new network, or indeed revamping your old one - talk to us, our managed network and systems integration capabilities can swing the odds back in your favour.

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Viatel gateway uses PAD

X.25 software eases access for agents

By David Beynon

SYDNEY — The pioneers among us who enjoy the luxury and economy of long distance coach travel will not need to take a pillow along when they book their Greyhound or Ansett Pioneer seats at the local Viatel equipped travel agent.

Transport Technology, the Brisbane-based software house specialising in travel industry applications, has seized the opportunity to use the Viatel terminals installed in many travel agents' offices for user friendly online access to its national reservation system, which it operates for Greyhound and Ansett Pioneer.

During the second half of last year, a joint effort between Transport Technology and Datacraft — with much development support from Telecom — produced a direct access method to Viatel in the form of a Telematics communications processor and Datacraft's External Computer Gateway software (see diagram 1) with Transport Technology's user interface.

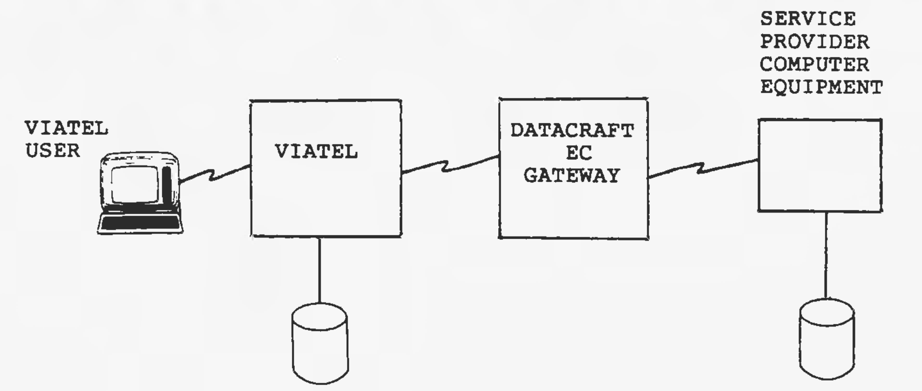

Diagram 1: The EC Gateway hardware is based on the range of Telematics programmable communications processors and includes one or more Motorola 68010 CPU, 4 to 16M-bytes of memory, a Winchester disk, a micro-diskette and sync/async channels. The software includes the X.25 protocol, the External Computer Gateway software to communicate with the Viatel network, and a tailored module to interface with the service provider's computer equipment. This tailored module is dependent on the type of physical interface to the service provider's equipment as well as the applications running on that equipment.

Previously, interactive application using the Viatel network was only possible through CPU-intensive host computer support of the videotex External Computer protocol.

For this application, Page 5021 is configured on Viatel as an enquiry screen for interstate services, and Page 5022 is a booking screen for reservations.

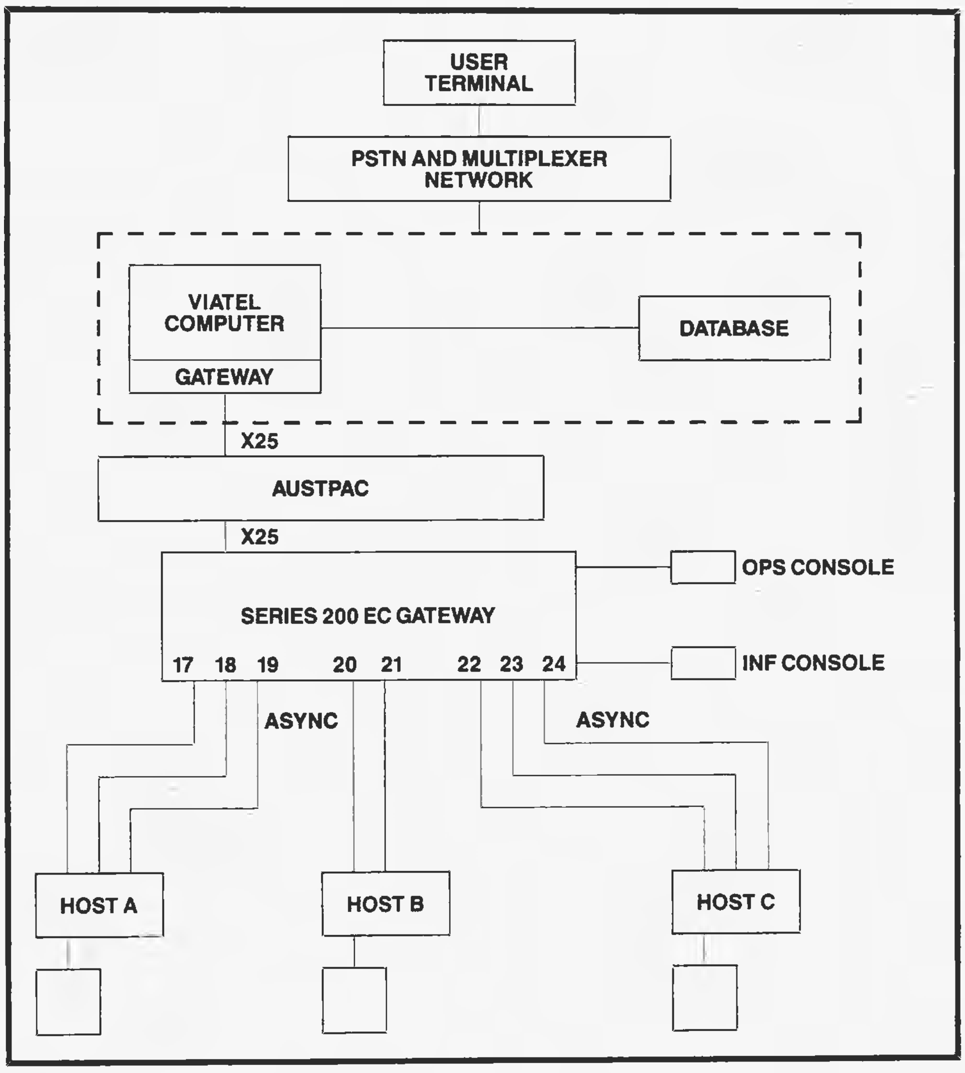

Diagram 2: This block diagram shows the data flow through the gateway

When the user enters Page 5021 the Viatel computer accesses the database for all the static information contained in the page and displays the formatted page with headings and field labels.

The user enters the mandatory field data, such as the coach service number, and the Viatel computer establishes an X.25 virtual circuit with the Telematics EC Gateway and sends an "A block" to the Telematics node (see diagram 2) with page number and mandatory fields filled in.

The Telematics node expands any binary data to Ascii characters according to the page definition for Page 5021, formats the data into a fixed length record, then forwards this "A block" to the appropriate host computer as selected by the "route definition" for Page 5021.

The host processes this block and sends back a fixed length "M block" containing all the data for dynamic fields on Page 5021 for this coach service. Viatel extracts the dynamic fields from the "M block" and displays the service information on the user's terminal.

For booking Page 5022 all mandatory fields must have been filled before Viatel establishes a virtual circuit to the EC Gateway, and the returned "M block" includes fields such as ticket cost and confirmation.

According to Paul Lowry, Datacraft's value-added network manager, "the Telematics EC Gateway would, in practice, support five hosts, and 40-50 simultaneous sessions."

The Sydney launch of the EC Gateway in Telecom's Business Sales Centre was attended by Guy Dawson of Fourth Dimension, which does bureau data processing for Deluxe Coachline. Dawson said Deluxe was assessing the new system's applicability.

Airline switches to PS/2 setup

SYDNEY — American Airlines has begun to replace terminals on its worldwide Sabre Travel Information Network with IBM PS/2 personal computers and is marketing an integrated MS Work-based office automation package to travel agents.

Sabreworks, based on the Microsoft OA package, Works, allows agents to operate from a single workstation rather than having to switch between terminals and PCs for bookings and wordprocessing. Some 600 PS/2 units were being linked to the 14,000-device network in the US alone.

Using Sabre, agents can check schedules of more than 650 airlines and make reservations on more than 350 of them. Rooms can be booked in more than 16,000 hotels, or cars booked with more than 35 companies around the globe. With Sabreworks, the bookings can be made on the network, then the agent can "hotkey" into the word processor to type out a confirmation, extract the client address from the integrated database, update costing spreadsheets and graph usage patterns — all on the one machine.

Japanese plan Korea venture

SEOUL — Japan's NTT International, the carrier's overseas trading arm, is reportedly preparing to enter the Korean domestic data communications market through a joint venture with its representative, Kokyun Data System Ltd.

Initially expected to develop data communications hardware, software and services, the offshoot is also tipped to try to take part in the fledgling Korean local value-added network business and the government-controlled national Infrastructure information system project.

It would be faced with heated competition with such entrenched powers as IBM, AT&T and Electronic Data Systems Corp, for the lion's share of the local data communications market.

Infonet support

EL SEGUNDO, California — Computer Science Corp has signed an agreement with Colombian telecommunications company Modem Ltd to provide service and support for its international value-added network service Infonet.

The agreement brings the number of countries in which Infonet is available to 30, according to Juan Cenzano, Infonet's international manager for the Iberoamerican region.

Colombia's national telecommunications company Entel-Colombia, will provide access to the Infonet network. Modem Ltd will also sell Infonet's electronic mail services.

industry outlook

MELBOURNE — Ericsson Australia has won a major contract for the supply and installation of a new international telephone exchange in Papua New Guinea which was badly damaged by fire late in 1987.

An Ericsson AXE-103 international gateway exchange is expected to be cut over in August.

SYDNEY — Communitron, Sydney-based data communications equipment manufacturer, will instal its 160-channel Matrix Patch Panel in a major Swiss Government computer installation.

Managing director Des Toth said: "The Matrix Patch fills the gap between basic cord type panels and very expensive automatic patching systems."

Toth described the export potential as "enormous." He said the Matrix Patch halved the cost of conventional patch panel connections. The jumble of cables is replaced on the board by a match pin which physically makes the four-wire connection between computer and terminal.

SYDNEY — Scitec Communications Systems Ltd, which listed last October, has announced a first half-year profit of $A1.2 million, and an after tax profit of $A633,000.

Total revenue increased 41 per cent, from $A7.8 million to $A11.0 million, largely because of higher export revenue, which now accounts for 30 per cent of sales.

Scitec has jumped major distribution agreements in West Germany, New Zealand, and the United States. A number of other major European distribution agreements are expected to be finalised in the second half of the financial year.

MELBOURNE — Andrew Sweeney Electronics (ASE) has acquired fibre optic communications specialists Integral Fibre Systems (IFS).

According to an ASE spokesman, this acquisition will allow ASE to offer a full range of Australian made fibre optic communications equipment, including modems, optical line terminating equipment, Ethernet transceivers, and star couplers, multiplexers, analogue IF transceivers, and analogue baseband links for television and radar signals.

IFS equipment is used as the backbone of many Lans, including those installed by the Department of Aviation for the new Brisbane International Airport. Other users include the Electricity Commission of NSW, OTC and the Argyle diamond mines.

Transcom plans to raise $A2m

Bob McGuiness, of Metal Products, and Rene Rossi, of Hamersley Iron, watch a demonstration of a security application for the TC4000 Rand system by Transcom engineer Chris Davies

PERTH — Startup HF radio data communications company Transcom is seeking $A2 million expansion capital on the Second Board of the Perth Stock Exchange and expects to receive substantial overseas interest after a successful demonstration recently.

Managing director Peter Malone said several orders for the company's equipment had followed Transcom's showing at the prestige Offshore South-East Asia '88 oil and gas industry exhibition in Singapore. Transcom had been invited to demonstrate its Rand system in Jakarta after the show and had secured an order for two systems worth about $A200,000.

Final negotiations were underway with a South-East Asian government on a $A5 million integrated communications and security system for voice and data. Transcom, one of 30 tenderers, had been advised it would get the nod for a pilot installation, to be followed by the full system order if the pilot worked satisfactorily.

Malone said Transcom's stand at the Singapore show was one of the major attractions, with about 12,000 visitors checking out its exhibits. The show had created a substantial market in the South-East Asian market alone, but the international exposure had been enhanced by the presence of visitors from Japan, the US and most European countries.

The UK-based principal of oil and gas industry specialist consultants Gaffney & Cline, Peter Gaffney, the keynote speaker at the show, had been "taken by our technology" and had since rung Transcom's listing brokers "looking to buy a substantial parcel of shares," said Malone.

The listing, which closes this month, is to provide capital to set up a fully integrated manufacturing and marketing operation to sell the Rand equipment here and overseas, he said. Joint ventures were also under discussion.

The Indonesian order is for realtime data logging applications between remote oil platforms and Jakarta. Oil companies looking for ways to cushion the effects of falling oil prices were looking to technology to make savings in their operations.

The Rand system, when interfaced to an oil rig's computers, allows fully automatic or interactive remote logging of all aspects of platform operation, Malone said.

Meanwhile, the company has refined the Rand product in the past few months, getting the data rates over the HF link up to a reliable 660 bits/sec. Research also continues into adding full facsimile capability.

The company was formed in 1986 after three years of research by a partnership including present directors Boyd Milligan (product development), Chris Davies (commercial manager), Kim Rhodes (production manager), Frank Malone (chairman of the board), his son Peter Malone, and Dominic Martino (accountant).

Substantial venture capital suppoıt and help from the WA government, as well as Department of Communications allocation to the company of a major segment of the (radio) spectrum — the only company in Australia to have been so favored, according to Peter Malone — saw the first commercial success early in 1987: a $A100,000 contract with Hamersley Iron for remote control of surveillance cameras.

Transcom's patented Rand (radio area network data) products include the TC1000 base-to-base transmission unit, the TC2000 mobile network system, the TC3000 selective paging system and the TC4000 base-to-equipment custom-designed system.

The heart of each system is a radio data interface card that acts as a controller between a digital data system such as a computer and a radio transceiver.

Integration venture for IBM, SESA

IDG News Service

PARIS — IBM is to form a joint venture company with French telecommunications and software house Societe d'Etudes des Systemes d'Automation (SESA), a subsidiary of Europe's largest independent software and services company, Cap Gemini Sogeti SA.

SESA, with 1500 employees and $US182 million revenue last year, pioneered the installation of France's Transpac X.25 packet-switching network, which now has more than 42,000 subscribers. The company has also built national packet-switching networks in 10 other countries, including Australia's Austpac.

The joint venture with IBM will aim at the rapidly emerging market for systems integration, where customers contract one company for the installation of heterogeneous networks and systems, as well as training and services.

The new company, still to be named, will be owned 51 per cent by SESA and 49 per cent by IBM France. IBM is said to be particularly interested by SESA's telecommunications know-how, as well as its reputation in public administration and financial markets.

IBM has poured more than 600 people into its systems integration activities in Europe since last year. In France, that unit currently employs more than 100 high-level engineers working with many outside partners, as well as with IBM's US-based Federal Systems Division. It has played a significant role in winning major deals for IBM, most notably as the prime contractor of Amadeus, a project launched by four major European airlines last June for the development and installation of a common flight-reservation system.

Tandem rescues U-Bass from DCA

IDG News Service

SANTA CLARA, California — Ungermann-Bass has foiled any further hostile takeover attempt by Digital Communications Associates (DCA) by allowing itself to be acquired by Tandem Computers for about $US260 million.

In the latest of a 12-month flurry of mergers involving networking companies, the local-area network vendor agreed to become a wholly owned subsidiary of Tandem, a supplier of fault-tolerant computer systems and networks for online transaction processing.

The emergence of Tandem as a white knight lowers the curtain on a drama that began shortly after last October's stock market crash, when DCA made a $US175 million offer to acquire Ungermann-Bass when that company's stock was down. DCA held on to a 6 per cent parcel of U-Bass shares it bought even though that company's board rejected the bid, and made clear it was still interested in buying Ungermann-Bass.

After the merger with Tandem, Ungermann-Bass will operate as an independent divison. Its co-founder and chief executive officer Ralph Ungermann will become a vice-president of Tandem.

The company sees a strong growth ahead, with an official arguing that "the market is moving to distributed intelligence in computing, distributed databases, high-availability systems and transaction processing. Local-area networks are the glue that combines these converging technologies together."

A Tandem spokesman said: "We find large corporations are shifting from small Lans to large networks of Lans," he said. "As people move to online systems, you need to tie them together."

Both companies share a common user base in the financial services, manufacturing and telecommunications fields and are committed to open networks based on industry standards.

"Tandem believes it will be a survivor as a full-line product supplier," said Susie Peterson, minicomputer analyst for First Boston Corp. "To become that, Tandem must connect to IBM and DEC, and that is what Ungermann-Bass gives them."

The merger is just one in an increasingly regular series of strategic partnerships between networking companies and larger computer companies, such as Unisys' acquisition of Timeplex.

"It is eminently clear that networking has become a central part of data processing," said Glenn Pafumi, a technology analyst at Eberstadt Fleming Inc. "But networking is still very difficult for an enduser, so they are looking to their principal DP vendor to supply all things."

Meanwhile, in Tokyo, Mitsubishi and Ungermann-Bass set up a joint venture company called Net One System to consult, develop software, and integrate hardware into local-area network systems.

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DATA COMMUNICATIONS TEST
EQUIPMENT

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There are hundreds of computer shops, dozens of networks suppliers . . . but how many offer datacomm's testing equipment as their main business?

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Analysts preview 3+ Open

By Mary Petrosky

SANTA CLARA, California — 3Com Corp has given analysts an early look at 3+Open — its recently announced personal computer network operating system based on the Lan Manager software that 3Com jointly developed with Microsoft Corp.

Microsoft will sell Lan Manager only to other vendors, while 3+Open will be sold to network users. Due for delivery from June, 3+Open will include server software for OS/2-based servers and so-called client software for OS/2- and MS/Dos-based network workstations.

Microsoft and 3Com said that Lan Manager, which is a network operating system complement to OS/2, is a strategic, long-term product. 3Com is counting on half of all personal computer network servers being based on OS/2 by the end of 1989, said Wes Raffel, director of marketing for 3Com's Software Products Division.

In its initial release, 3+Open will provide basic network services such as file and printer sharing, as well as a variety of network administration and security capabilities — features found in Lan Manager.

By the third quarter of this year, 3Com expects to add more services to 3+Open, including name and mail services, routing capabilities, support for remote workstations and tape backup, features found in 3Com's current 3+ product.

At the same time, 3Com plans to provide 3+Open support for a range of products from its Bridge Communications subsidiary. Those offerings include TCP/IP (Transmission Control Protocol/Internet Protocol services, gateway servers and network control servers, which provide network management tools.

Next year, 3Com expects to enhance 3+Open by adding support for Macintosh computers as well as network management capabilities, including integration with IBM's Netview. Support for IBM 3270 terminal emulation and IBM's LU6.2 are also planned for 1989.

For the demonstration, 3Com set up two Compaq 386 personal computers, one configured as a server and the other as a workstation both running OS/2 and with 4M-bytes of memory. The demonstration showed off many of 3+Open/Lan Manager's new features, including a feature that allows a network user to initiate multiple tasks on the server simultaneously.

3+Open/Lan Manager will re-establish a session between a workstation and a server if the session is cut off.

New resource pooling capabilities enable users to queue up for printers and modems and also notify users when print jobs are completed.

Many of the new features, such as the ability to create audit trails and limit the number of users who can access a given program, are aimed at network administrators.

3+Open/Lan Manager can be set up to track the use of disk drives, directories, files and even communications sessions, said Roy Johnson, product marketing manager of 3Com's Software Products Division. Using this audit information, a network administrator or software developer can create an application for billing users on the network, Johnson said. Network setup and ongoing changes such as adding and deleting user names are done through a series of menus.

3Com will continue to support its current 3+ line, which is designed to run on MS/Dos-based servers. This month, 3Com is expected to have client software available that will allow OS/2-based workstations to link to servers using the current 3+ software.

- *Mary Petrosky writes for* Network World, *our US sister publication.*

Ultrix to comply with Posix

PALO ALTO, California — Digital Equipment Corp — faced with increasing customer demand for Unix — has pledged to make its Unix derivative Ultrix comply with the Posix standard by early (northern) summer and to offer it as an option on future products.

DEC spokesmen briefing industry analysis at the company's research facility here also said DEC would work to make Ultrix fully compatible with AT&T's System V Interface Definition (Svid).

The company last year withdrew from a $US4000 million Air Force tender, complaining that the requirement of Svid compatibility was anti-competitive. Ultrix is claimed to be about 85 per cent compatible with Svid.

DEC last year said it would take too long to make it fully compatible in time for the Air Force bid.

DEC also has committed to making its standard VMS operating system compliant with the National Bureau of Standards Portable Operating System Unix (Posix) standard.

Touch packages allow new link to DEC host

NEW YORK — Touch Communications chose the recent Dexpo East '88 show to launch the latest of its Open Systems Interconnect (OSI) networking software packages.

Touch Terminals is said to allow an Apple Macintosh or IBM Personal Computer or compatible running existing terminal emulation software to establish sessions with a Digital Equipment Corp Vax/VMS host over an OSI local-area network.

Despite its name, Touch Terminal is not a terminal emulation package but "allow users to take advantage of OSI networking capabilities while retaining the familiar commands of most existing (terminal emulation) applications," according to Touch.

Providing terminal emulation across an OSI network eliminates the need for dedicated serial or modem lines.

Touch Terminal is claimed to permit a user to establish several sessions with one or more host over a network, as long as the microcomputer's operating system or terminal emulation package supports concurrent sessions.

Touch Communications also provides a software package that is said to allow Vax/VMS hosts to communicate over an OSI network using existing Vax software.

Lan Manager to support Mac

MENLO PARK, California — Microsoft Corp and 3Com Corp's OS/2 Lan Manager will not support mainframe links until next year, but support for the Apple will also be provided in 1989.

OS/2 server support will be introduced in June 1988, the companies said, while "core services" support for OS/2 clients under Dos servers will be available next March. OS/2 e-mail clients under Dos servers will be supported in June.

Now... are you sure you inserted your ATM card into the POS terminal and punched in your PIN?
Phil Frank

Apple launches attack on workstation market

DALLAS — Apple Computer has launched its assault on the workstation market announcing delivery of A/UX, its Unix operating system for the Macintosh II.

Chairman John Sculley, outlining his company's strategy at the Uniforum conference here last month, said Apple saw "a huge opportunity in the engineering marketplace for a system under $10,000".

Apple is offering A/UX on preconfigured 80M-byte hard disks and has incorporated into the program features intended to simplify system administration. "This is not a Mips war," said Sculley. "In terms of broadening the Unix platform, usability is probably even more important."

A/UX is based on AT&T's Unix System V.2.2, with Berkeley 4.2 and 4.3 extensions for networking and the porting of Berkeley Unix applications. The program includes the C, Bourne, and Korn shells, as well as Adobe's Transcript, to facilitate printing to Postscript devices. A/UX also supports X-Windows, offering developers an option in developing network applications. The program also includes a full implementation of TCP/IP protocols. Appletalk is not supported in the first release, which comes as a complete development system or as a $US4879 upgrade for Mac II owners including an internal 80M-byte hard disk.

About 5 per cent of available applications will run under A/UX without modification. At least 25 companies announced A/UX-compatible products in conjunction with Apple's announcements. These included relational database vendors Informix, Relational Technology, and Oracle Corp.

Insignia Solutions, publisher of the Soft PC Dos emulation software, showed its $US595 running Dos programs under A/UX.

Vines to get Orion software

WESTBORO, Mass — Network integrator Banyan Systems has announced it will incorporate LU6.2 and PU2.1 software licensed from Orion Network Systems into its Virtual Networking Software (Vines).

The announcement is the second step in Banyan's strategy to maintain IBM compatibility. It follows the company's pledge to track IBM's Systems Application Architecture, including support for Netbios under OS/2, Advanced Program-to-Program Communications under OS/2 Extended Edition, and the Lan Server Program.

Banyan had promised LU6.2 support last year when introducing Vines version 3.0, distributed in Australia by Datacraft. At the time Banyan said it would first release an LU6.2 toolkit to developers and corporate programmers.

Support for LU6.2 not only enhances Banyan's ability to communicate with a range of IBM processors and systems. It also extends the company's reach into the many non-IBM environments that will also support LU6.2.

Scheduled for release later this year, Banyan's LU6.2 offering is reported to support the advanced communications protocols in IBM's Systems Network Architecture (SNA).

PC-Vax links live through Mac onslaught

By Edward Warner

NEW YORK — A strong flavor of Apple pervaded Dexpo East here last month as a host of vendors unveiled software to make the recent promise of DEC-to-Macintosh connectivity happen, but PC-to-Vax connections were not forgotten.

Dexpo, nominally a DEC users' show, was the venue for the arrival of such expected software as Network Innovations' CL/1 (Communications Language/1), which gives Macintoshes a link to Vax databases.

But the show also served up several surprising highlights, including a program from Touch Communications that allows Mac or PC users to access a Touch OSI network using their existing terminal emulation software.

Touch said its Touchterminal software, due out in June, supports multiple terminal sessions with multiple hosts, including those from various vendors. The software will initially be offered free with the Touch OSI products for PC/MS-Dos and DEC's Vax environments, the company added.

Continuing the Apple theme, Telos Corp introduced a Macintosh interface to DEC's All-In-1 office automation system that will be available in the US this month for $US3000 for the host module and $US200 per Mac.

Also announced with an All-In-1 interface was Keypak, a library of document interchange formats from Keyword Office Technologies. Keypak, available now from $US2000, runs on the Vax to allow connected Mac users working with Microsoft Word to convert their documents for use by various PC and other word processing formats supported by the library, the company said.

For Macs connected via Ethernet to Vaxes under Unix, Mt Xinu introduced Xinet, which, it said, supports file storage and multiple terminal windows on the Vax. The software is available now for $US5990, the company added.

Also announced at the show were several products that improve PC-to-Vax communications, including Community-Dos and Vax Blast II. Community-Dos, available now for $US350, is compatible with DEC's Vax/VMS services, according to its vendor, Technology Concepts.

Vax Blast II, also available now, is a high-speed VT220 link offering doubled throughput and incorporation of the Blast-script programming language, according to Communications Research Group. Vax Blast II's PC module costs $US250, while software for the Vax is priced from $US695 to $US1295.

Finally, Walker Richer & Quinn Inc of Seattle announced at the show it is developing a PC-to-IBM mainframe file program supporting direct connect, asynchronous modems, Lans, and X.25 and TCP/IP networks. The company added it was also developing VT320 terminal emulation software for the Macintosh.

Blast enhancements

BATON ROUGE, Louisiana — An enhanced version of the Blast communications package for the Macintosh that will ease Mac-DEC links will be available next month from Communications Research Group for $US195, the company has announced.

New features previously unavailable in the limited earlier Mac Blast and Blast Vax versions include auto-dialling and auto-log-in to remote users, and automated modem support. Changes also include a Maclike user interface with keyboard command selections.

Mac Blast II offers the full communications capabilities found in the Blast II line, allowing full connectivity with Vax/VMS, PDP/RSX, and IBM mainframes, according to the vendor. The product supports Multifinder to allow background file transfer and a script capability to allow auto-processing of data. In addition, users can switch between Macintosh applications and remote operations.

Mac Blast II runs on a standard Mac II or Mac SE with a 300-19,200 bit/sec asynchronous modem or at higher speeds with a direct-connect option.

Zenith users offered OS/2

ZENITH has released Microsoft OS/2 for its range of 80286 and 80386-based machines, claiming to be the first vendor other than IBM to offer the new operating system. The company said shipments are due in Australia soon for the Zenith Z-200 and Z-300 series of personal computers. Zenith used Microsoft's OS/2 binary adaptation kit to develop its own device drivers for the O/S kernel. The system requires at least 1.5M-bytes of PC memory.

Zenith Electronics Pty Ltd: (02) 417 7999.

Apple lifts lid on Mac tools

APPLE Computer Australia has unveiled two new development tools that will enhance the way its personal computers and host systems communicate: MacAPPC and Macworkstation. MacAPPC is a software implementation of IBM's Logical Unit 6.2 and Physical Unit 2.1 protocols, which are a key part of IBM's SNA direction.

Macworkstation is a software development toolkit that lets host computer users utilise the Macintosh interface, filing and printing features while using languages they are familiar with.

Apple also released version 2.0 of Appletalk for VMS, a communications program that runs as a process under VMS and allows Vaxes to connect to Macintosh and other computers operating on any Appletalk network, including Ethertalk.

Apple also has adopted the X-Window System, the industry standard for network-based windowing, which will run on A/UX, Apple's Unix operating system for the Macintosh II.

Apple Computer Australia: (02) 452 8012.

Sourceware's two-in-one

SOURCEWARE used the recent Online '88 show in Sydney to release a new videotex communications package from Neologue, bundled with the Dataplex DPX-224 modem. The software, Conn-X, handles both Ascii and videotex protocols, can display Viatel color graphics on monochrome screens, uses XModem protocol for file transfers and has a well organised user interface employing menu bars. The user can program Viatel access commands, including flexible frame print controls, into script.

Sourceware: (02) 411 5711.

Intelligent port sharing

CVA Computer and Peripheral Sales have announced Digi/Print, a new feature for the Digiboard Com/Xi series intelligent multichannel boards which allows terminals and printers to share the same port and operate simultaneously. The printer/terminal switching is transparent to multi-user operating systems. Digi/Print is compatible with Xenix and Microport Unix and will soon be offered with PC-Mos.

CVA Computer and Peripheral Sales: (02) 476 6400.

SOFT SPOTS

VM Personal Computing has released a version of its IBM 3270 emulation software with Vtam support. The new version is available for IBM VM/Vtam and MVS/Vtam and gives microcomputer users direct access to an IBM Systems Network Architecture (SNA) environment. PC users running Relay Gold can dial into an IBM mainframe running VM Personal Computing's Relay/3270 and let their personal computer function as a 3270 terminal in an SNA environment. The connection is made over a telephone line. Even laptop computers can participate in an SNA environment, the vendor said.

ON-LINE Documentation has launched Release 2.1 of the Look on-line CICS terminal monitor software system that lets users view remote terminal screens instantly. The degree of remoteness affects neither the screen contents nor their immediate appearance on the user's screen, according to the company. Release 2.1 target terminals need not be predefined; definition to CICS is all that is required to bring a terminal within Look's sights. A Look 2.1 user can set up joint viewings by calling a remote terminal operator and selecting the remote CICS terminal screen contents to be viewed from a current list of CICS sessions. An unlimited number of terminals can be monitored, and Release 2.1 includes a security interface that keeps remote screen data out of view of unauthorised parties as well as an on-line security definition process.

COMMUNICATIONS Solutions Inc (CSI) offers Lan users the opportunity of running both IBM APPC and 3270 applications with a single non-dedicated gateway through its Maxess SNA product. Maxess software runs on an Intel 80286-based coprocessor board with 512K-bytes of memory to emulate a 3274 cluster controller. Workstations emulate 3278/3279 terminals and 3287 printers, CSI said. Maxess also offers 3270 PC-compatible file transfer and a 3270 application programming interface (API) compatible with IBM's HLLAPI. An APPC/PC-compatible API is also included.

UP to thirty-two 3270 and APPC sessions can run concurrently, supporting line speeds of up to 56K-bit/sec. Users can toggle between 3270, APPC, and PC-Dos applications, CSI said. Network management comes with the Maxess package. Maxess links Netbios-compatible Lans with IBM SNA mainframes and departmental processors, CSI said.

Dialcom does it again . . .

ROCKVILLE, Maryland — Users of the various Dialcom-based electronic mail services such as Australia's Keylink D can build tailormade applications with the Upfront frontend e-mail program from Dialcom Inc.

A new version of Upfront ($US139) incorporating the macro language lets users send or collect e-mail at a single keystroke.

The program uses a file folder system to keep track of incoming, outgoing and previously sent messages. Users can search for messages by date, subject, recipient, originator, or a combination of these criteria.

There is a "black book" database that keeps track of e-mail and telex IDs which can be used to automatically fill in the required information when sending messages.

An integrated electronic forms feature can be used to create invoices, sales reports, and so on by menu-driven routines. Forms so created can be filled in on-line, with screen conditionals checking correct field entry, and distributed by e-mail.

Considering the abysmal online editor and the hassles with uploading short memos using Keylink's WP Mail feature, users will appreciate Upfront's full-screen text editor for easy creation of messages.

Right justification, insertion and block moves are supported by the editor, which also has string searching capability.

Upfront runs on IBM PC-compatible machines and is available in both 5¼in and 3½in formats.

Dialcom Inc: 0011 1 301 881 9020.

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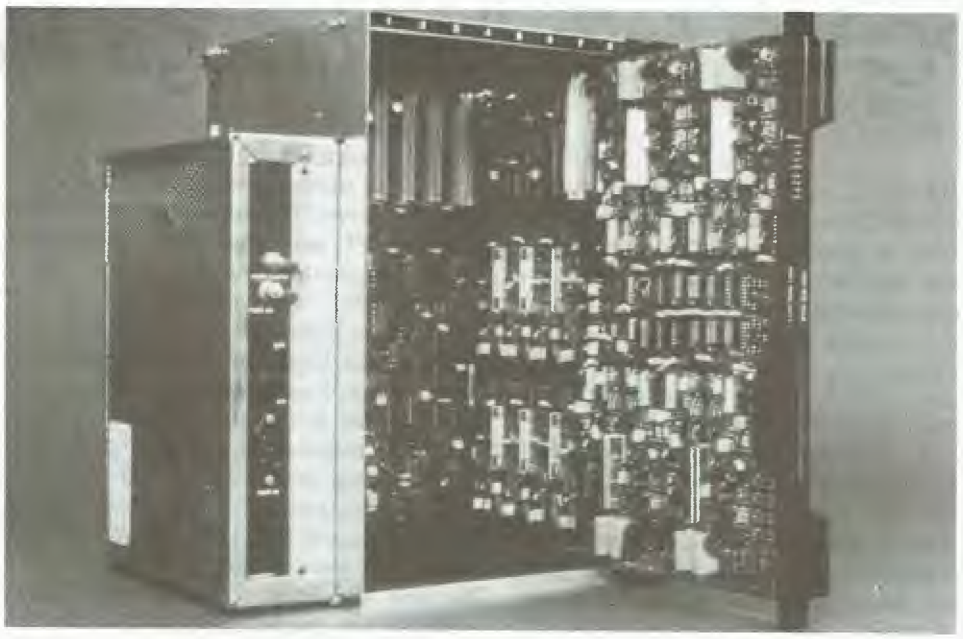


The Mitel SX-50 exposed . . . easy as fixing toasters.

SYDNEY — Teletrade Services of Sydney, the trading arm of British Telecom in Australia, has launched the Mitel SX-50 small business PABX, a modularly expandable switch claiming a number of unusual hardware and software features.

Its capability to be transparently "slaved" to other units, in particular, should be a top selling point once Telecom is forced to yield on its rigid shared-tenancy PABX policy.

Coming in below the price of a top-end Commander key system in a minimum configuration, the SX-50 can handle networking; programmable automatic route selection (available here in September); modem-based data communications; cost control including call reporting, "portable" account codes, class of service and programmable call restrictions that can be assigned by day and time; as well as a number of features optimised for the hotel/motel industry. These include automated wakeup calls, long-distance calling privileges from guest rooms and message-waiting flashing lamps.

For networking, the SX-50 can be fitted with an E&M Tie Trunking (4-wire signalling) module that turns it into an endpoint in a private network, such as a branch office linked to the main office. Call forwarding to a selected external number on busy or ringing timeout is possible; direct inward system access for external access to tielines or connected data facilities (security code-protected) will be available once Telecom gives its approval.

In "slave" operation, for example, to increase an existing PABX's line size, the SX-50 allows users to transfer established calls between both systems by connecting a trunk circuit in the slave to a line circuit in the host; trunk group identification allows a selected trunk outpulse its Trunk Group directory number automatically, so that a unified numbering plan can be used between linked PABXs, according to the vendor.

The non-blocking switch uses custom integrated circuits developed for Mitel's high-end SX-2000G Integrated Communications System, including its Digital Crosspoint (DX), a high-density chip with 16 (8/8) 2.048M-bit/sec input and output links, each capable of supporting 32 TDM/PCM channels. A custom combined filter/codec chip including self-diagnostic capacity is also used.

The control card back plane uses a Motorola 68000-series CPU running under software provided on a lithium battery-backed program module. Up to 160 ports can be configured in blocks of four or eight trunks and eight or sixteen lines. Up to 10 peripheral cards, including modules for E&M trunking, music-on-hold and paging, can be plugged into universal slots on the control card for custom configurations. All are field-replaceable without powering down the system. Talk about "fixing toasters" . . .

Handsets available across the Mitel range include the soft-key programmable Superset 4, a micro-processor controlled phone with a multi-line alphanumeric LCD display that not only prompts users for feature access but can also be used to exchange messages between similar stations or to leave notes such as "In a meeting" at the console. The display can also show details of the calling station. The Superset 4 is key-programmable to handle up to 15 different lines and can be used to switch between voice and data calls on what the vendor calls an Associated Modem Line (AML). Data communications, both internal and external can enjoy the same facilities as voice calls, such as speed calling and programmed route selection. Printers, for instance, may be set up in a "hunt group" so that system output is automatically sent to the next free printer.

According to Mitel, the SX-50 can be installed and cut over in under half an hour on a prepared site. Indicative prices range from $A17,000 to $A40,000.

Teletrade Services Pty Ltd: (02) 262 1199.

Testing times

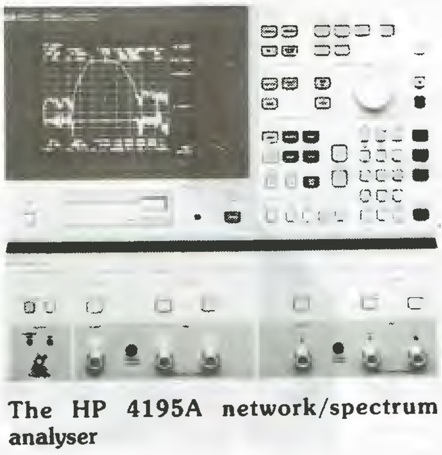
NEW FROM Wandel & Goltermann is the DST1 signalling tester which incorporates a signalling generator, a distortion meter and a contact tester. This hand held unit measures distortion of E&M signalling on PCM systems or in the S channel of FDM systems. Distortion measurement results are clearly displayed on a scaled LCD display over selectable ranges +/− 9ms or +/− 2.25ms.

Wandel & Golterman: (03) 267 869.

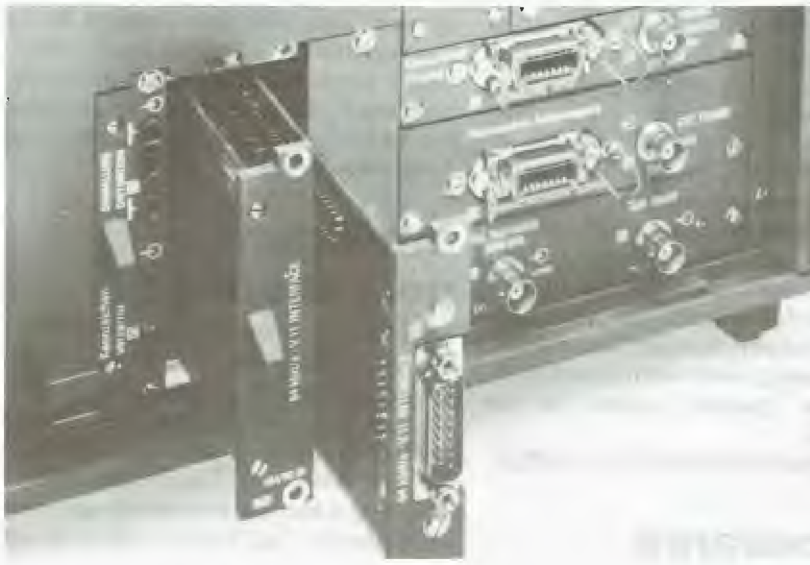
A NEW type of instrument for analysing and characterising time-varying signals to 500MHz has been introduced by Hewlett-Packard Australia. The HP 5371A frequency and time-interval analyser allows users to better understand the dynamics of frequency, phase, time interval and jitter of complex signals. HP claims that its new continuous measurement technology enables the analyser to handle previously impossible (or at least super difficult) measurement and analysis functions.

This new analyser is aimed at test and measurement applications in frequency agile data comms, data storage peripherals, radar, electrical/mechanical systems and basic research.

Hewlett-Packard Australia: (008) 033 821.



The HP 4195A network/spectrum analyser



PCM-Test signalling tester from Wandel & Goltermann

A 64K-bit/sec interface has been specially developed by Wandei & Goltermann for the PCM-4. Since coming ISDN telephone equipment is fitted with codecs, half channel PCM measurements to CCITT G.714 need to be made. The PCM-4 can access the digital side of the ISDN S interface via the 64K-bit/sec V.11 interface and an ISDN D channel protocol simulator. A free set of detailed information is available from W&G.

Wandel & Golterman: (03) 267 869.

HEWLETT-PACKARD Australia has announced the HP 8592A portable spectrum analyser. This new analyser has a frequency range of 50KHz to 22GHz and an amplitude range of -109dBm to + 30dBm. Three digital interface options, HP-IB (IEEE-488), HP-IL, and RS232C provide for full programmability from a variety of common machines including HP technical workstations and the IBM PC.

Dedicated pushbuttons activate basic functions such as centre, frequency, span and marker functions. This unit will store up to nine control settings and five trace displays in non-volatile memory.

Hewlett-Packard Australia: (008) 033 821.

WANDEL & Goltermann's new DA-20 data analyser is a versatile test set which will measure at data rates up to 72K-bits/sec full duplex. Parameters and programs are stored on 448K-bytes of non-volatile Ram.

Data stored on the 45M-byte ¼in tape streamer cartridge can be displayed "quasi online" and investigated for other transmission parameters.

The DA-20 is soft key programmed by means of user-defined tables which are formatted to display clearly changes of state, actions and events. In addition to testing existent data-comms equipment, the DA-20 has builtin facilities for future ISDN systems. The DA-20 can access the So interface, activate the D-channel and multiplex/demultiplex 193K-bits/sec data flow.

Wandel & Goltermann: (03) 267 869.

THE HP 4195A is Hewlett-Packard's first combination network/spectrum analyser for measuring analogue circuits and components.

The HP 4195A has an amplitude/phase accuracy of +/− 0.5dB/+ /− 0.3 degrees for network measurements and > 70dB dynamic range for spectrum measurements over 10Hz to 500MHz. A builtin 3½in flexible disc drive will store and retrieve all control settings, measurement data, program-points table (for sweeps) and user programs.

Hewlett-Packard Australia: (008) 033 821.

DEC VT320 terminal out

DIGITAL Equipment Corp (Aust) has released the VT320, a successor to its VT220 terminal series coming in at a lower price but claiming a number of significant enhancements.

The 14in flat-screen text terminal comes in green, amber or paper-white monochrome versions and is compatible with existing VT100 and VT220 applications. It can be connected via the Decconnect modular office wiring system.

The VT320 costs $A1142, including a one-year onsite warranty within 100km of a DEC office. DEC also announced a 30 per cent price cut for VT220 and VT240 terminals ordered for March delivery.

Battery-powered pocket unit

ADVANCED Components has released the AM-3120P pocket-sized modem. It suports Bell 103 /212A, CCITT V21/V22 protocols and the extended "AT" modem command set. The unit can be powered by an ordinary nine-volt battery. Recommended retail price is $A625 to $A675.

Advanced Components Pty Ltd: (03) 739 119.

New Digiboard released by CVA

CVA Computer and Peripheral Sales has released PS/2 versions of their Digiboard Series. Designated the PS-Com/8 and PS-Com/16, the new boards provide eight or sixteen communications channels for the IBM Models 50, 60 and 80. The combination of PS-Com/X boards with Digiboard's Comware, a proprietory com device driver and software utility, allows PC and MS-Dos users to access up to the full 64 port capacity. The new PS-Com/X boards are available with a driver interface for SCO Xenix/286 and /386.

CVA Computer and Peripheral Sales: (02) 476 6400.

TLC — how would it work?

By David Beynon

The engineering could be as messy as the politics

SYDNEY — The engineering "how-to" of time-charged local calls (TLC) would be only slightly less messy than the politics of this issue, according to Telecom sources. What is clear is that the cost and difficulty would be directly proportional to the vintage of the exchange switching equipment.

Australia's 6.8 million lines are switched by aproximately 6000 exchanges which consist of five generations of equipment the Ericsson X-Bar; AXE, ARE-11, ARF, ARK and the Strowger/Type 2000/SE.50 Step-by-Step (SxS), which was sunrise technology when Alvin Strowger invented it in 1891.

According to a Telecom engineer, the 4.26 million lines in metropolitan Australia are switched as follows: less than 700,000 AXE, 2.5-3 million ARE-11, and the balance split between ARF and SxS.

When a local call through an AXE exchange is answered by the called party, a software-generated meter pulse is fired and recorded by a software meter called a "call charge accumulator". Conversion to TLC here would call for " a software solution requiring no hardware installation worth mentioning".

This source could not provide costing details, but did explain that the needed Ericsson software was already being used overseas.

Senator Button looks at an Ericsson AXE104 rural exchange

Conversion to a TLC charging regime was another matter altogether for the majority of city lines which run through ARE-11 exchanges. These exchanges, which have a capacity of 20,000 lines, are bascially ARF X-Bar, with the old electromechanical common control equipment replaced by a central processor. Functions such as route analysis and route selection, which were previously performed by relay-type registers and markers, are contained in stored programs.

Unfortunately, the charge meters and the supervisory circuit which is responsible for meter pulsing at termination of local calls through the ARE-11 are of the hard-wired electromechaical variety.

Implementation of TLC charging would be "a significant cost exercise, requiring modification of much supervisory hardware and replacement of all electromechanical meters" according to this source. A major part of this cost would "be getting guys into the exchanges to do the work".

Flagging of disadvantaged subscribers, while technically possible, would in any event be determined by the total number and eventual mix of customer categorisations, "which in any case would be a policy matter to be resolved between Government, Telecom and interest groups".

A variety of options exist for going TLC with the remaining 600,000 to million metropolitan lines that are switched by standard ARF X-Bar, or SxS exchanges. Most favored is "a microprocessor, based solution in conjunction with much hardware". Conversion of ARF exchanges is a "major cost exercise", but "probably viable given that these exchanges run up to 10,000 lines". Conversion costs could never be justifiable for the metropolitan step-by-step changes targeted for replacement. If you frequently reach wrong numbers or get the congestion tone, then chances are that you telephone is connected to a step-by-step exchange.

The 2.6 million country lines ran a total loss of $A525 million for the 85/86 financial year — the most recent metro/country breakdown presented in Telecom's 1987 annual report.

Since country exchanges are predominantly SxS and older ARK X-Bar switching an average of only 100-200 lines, the expensive TLC conversion would be impossible to justify on economic grounds alone — would any country service above and beyond a party line pay its way?

The country scene will not change in the near future, since with the exception of some provincial centre installation work, the 350,000 lines of AXE equipment Telecom has purchased for 1987/88 are destined for metropolitan areas.

> *' Would any country service above and beyond a party line pay its way? '*

The obvious conclusion is that the touted Australia-wide mid-89 TLC deadline was never a possibility. Even a post-Federal election, mid-1992 deadline would force Telecom to connect a lot of expensive equipment on to much outdated exchange switchgear.

Our source admitted that "even if we started now, only the AXE exchanges could be converted to run TLC by mid-89". He added, "we would just be making a start on the ARE-11 and would have done just about nothing elsewhere".

It is unfortunate for Telecom that Strowger did not foresee the coming of fax machines (which Telecom has argued are a major reason for its TLC move).

WA expects answers soon

PERTH — The government of Western Australia is expecting "a fairly healthy response" by March 14 to its request for proposals (RFP) to set up and manage a state-wide government communications infrastructure.

According to former Queensland Department of Industrial Development chief Peter Born, a former Telecom WA manager who helped put together the RFP late last year, documents detailing the government's requirements were sent to more than 100 organisations, including a number of overseas interested parties.

The WA government is now spending about $A30 million a year on its communications needs. It not only expects savings in a number of areas, but is primarily interested in obtaining a well-managed communications infrastructure for the state.

According to Born, the RFP is designed to attract a prime contractor who would primarily provide the network management. Secondary considerations are the provision of telecommunications and carrier-type services, with hardware and software supply making up a third level.

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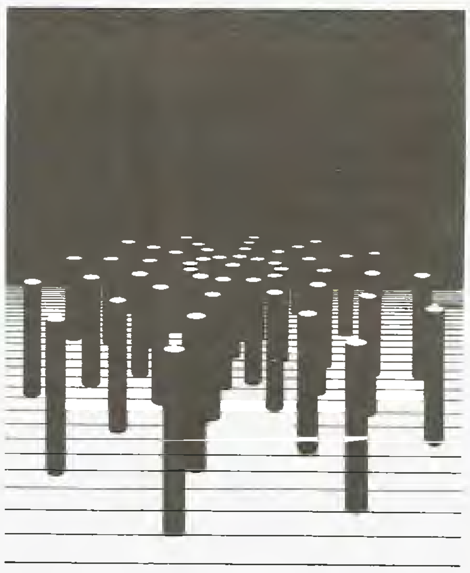
Dawn of the 'mainframe server'



By James Connolly

IBM pushes ESA to prevent people from putting dinosaurs out to pasture.

FRAMINGHAM, Mass — The mainframe, often portrayed by its critics as an obsolescent dinosaur, is being fitted out for a new lease on life by the mainstay mainframe vendor.

Wary of the proliferation of powerful workstations and distributed processors that can run user applications, IBM reinforced its effort last month to redirect the mainframe as a corporate database machine and network manager rather than an application processor.

IBM's introduction of MVS/ESA (for Enterprise Systems Architecture) and system-managed storage software were seen as major steps in positioning its 3090 and future mainframes.

The word "enterprise" and the concept of sharing information throughout a corporation were focal points for executives in IBM's Enterprise Systems Division at the announcement. The minimal applications orientation focused on how the 3090 and the system software will support distributed user applications that will require massive amounts of storage.

MVS/ESA is designed to support 16 terabytes of memory while making it easier to manage data in memory or in online storage. If that capacity were translated into typewritten pages — at an average of 4000 bytes/page — 16 terabytes could hold 2.6 million 1500-page books.

Analysts cautioned that while there seems little need for 16 terabytes of memory, some users are now approaching the 2G-byte limit that seemed absurd when MVS/XA was announced.

Describing the 3090, Carl Conti, general manager of the Enterprise Systems Division, said: "When it comes to collecting massive amounts of information, organising it and, most importantly, sharing it across an enterprise, there is no solution that can do it as well."

The emphasis on the mainframe as a server for workstations is one result of IBM's renewed focus on communicating with its customers, said Michael Geran, an analyst with Nikko Securities Co.

"One of the benefits of the year of the Customer in 1987 was the discovery of what customers want to do with mainframes," Geran said. "The tripod (IBM) used in its original presentation of the 9370, with the mainframe, the 9370 and the workstation each being a leg, has been partially undercut by the rate of change in microprocessors and the slow development of the 9370."

Conti repeated the prediction IBM has made since it introduced the IBM Personal Computer in 1981 by saying that PCs drive user demand for information and that central systems are the best means to keep information current.

Lans to lose

He also said technologies, such as artificial intelligence, image processing and relational databases, require the storage capacities that new IBM mainframes will support. While the largest data centres today have one terabyte of data, he said they will have 500 terabytes in a few years. At a New York seminar on IBM directions, sponsored by the Yankee Group Research Company, analyst Robert Tasker described the IBM move as a step toward an environment where application activity occurs on workstations at the expense of minicomputers, such as the IBM 9370 and local-area networks.

"We are seeing clear signs for a year or two out where there will be two tiers of computing, mainframes and workstations, instead of three," said Tasker, adding that intelligent workstations with speeds up to 10 million instructions per second cannot be ignored.

IDC analyst, Francis Gens, agreed: "This is a continuation of the shifting of the mainframe that has been going on for a few years." Using the mainframe as a database machine will let large systems compete in transaction processing where, according to IBM, the typical CICS transaction has grown in complexity in the past five years from 10 to 14 I/Os to 40 to 50 I/Os.

Gens noted that when the earlier operating system was announced in 1981, 2G-bytes seemed more than anyone could ever need. But now, large-systems customers are nearing that limit and may soar past the figure when they restructure their systems to take advantage of MVS/ESA and its functions, he said.

Meanwhile, IBM plug-compatible vendors National Advanced Systems (NAS) and Amdahl already promise support for ESA.

- *James Connolly writes for* US Computerworld.

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